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AUGUST 1970

U. S. DEPT. OF AGRICULTURE
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CURRENT SERIAL RECORDS

FEED
Situation

ECONOMIC RESEARCH SERVICE • U.S. DEPARTMENT OF AGRICULTURE

Table 1.--Statistical summary of prices, indexes and price ratios, recent years and months

Item	Unit	Season average 1967/68	Season average 1968/69	1969 July	1970 April	1970 May	1970 June	1970 July
FEED GRAIN AND HAY PRICES								
Corn, No. 3 Yellow, Chicago	Dol. per bu.	1.12	1.17	1.27	1.26	1.30	1.34	1.38
Price received by farmers	do.	1.03	1.08	1.18	1.15	1.18	1.21	1.24
Oats, No. 1 White, Chicago	do.	.766	.636	.628	---	---	.667	.690
No. 2 White, Minneapolis	do.	.702	.641	.598	.665	.680	.659	.641
Price received by farmers	do.	.659	.598	.580	.588	.602	.613	.580
Barley, No. 3, Minneapolis	do.	1.24	1.15	1.09	1.09	1.15	1.16	1.12
Price received by farmers	do.	1.00	.911	.953	.829	.898	.944	.902
Grain sorghum, No. 2 Yellow, Kansas City	Dol. per cwt.	1.99	2.00	2.07	2.04	1.98	2.08	2.12
Price received by farmers	do.	1.77	1.70	1.82	1.80	1.80	1.80	1.92
All hay, baled, price received by farmers	Dol. per ton	24.50	23.60	22.20	24.00	23.50	22.40	22.10
Alfalfa hay, baled, price received by farmers	do.	23.60	23.00	22.50	24.50	24.00	22.90	22.60
PROCESSED FEED PRICES, BULK								
Soybean meal, 44% solvent, Decatur	Dol. per ton	76.90	74.10	77.30	74.60	71.20	74.70	82.90
49-50%, solvent, Decatur	do.	84.30	82.50	86.20	83.10	78.90	82.70	92.50
Cottonseed meal, 41%, expeller, Memphis	do.	77.60	65.20	68.00	64.90	65.20	70.20	78.30
Linseed meal, 34%, solvent, Minneapolis	do.	76.50	68.40	70.70	67.50	65.75	64.70	64.90
Peanut meal, 50%, S.E. mills	do.	81.10	80.00	74.60	75.50	71.75	76.00	85.25
Tankage digester, 60%, Chicago	do.	92.50	94.90	100.80	116.90	108.10	104.50	109.10
Meat meal, 50%, Chicago	do.	88.80	91.60	101.00	115.60	103.10	101.00	105.00
Fish meal, 60%, New York (bagged)	do.	127.00	150.60	173.90	202.50	199.40	190.50	180.00
Gluten feed, 21%, Chicago	do.	44.90	43.70	40.00	42.00	42.00	42.60	44.00
Brewers' dried grains, 24%, Milwaukee	do.	45.90	45.00	38.20	40.60	41.60	40.80	42.50
Distillers' dried grains, 28%, Cincinnati	do.	52.70	55.30	54.80	52.00	---	58.80	57.00
Wheat bran, Minneapolis	do.	39.30	38.70	33.50	40.75	35.25	35.70	40.40
Buffalo	do.	42.20	41.60	33.20	46.40	42.00	38.60	40.25
Wheat middlings, Minneapolis	do.	39.80	39.90	34.30	40.75	35.25	36.00	41.10
Buffalo	do.	44.30	44.40	40.00	48.10	43.90	41.10	46.10
Hominy feed, Chicago	do.	39.00	41.10	36.20	40.10	42.10	40.20	46.60
Molasses blackstrap, New York	do.	27.93	23.10	23.10	28.20	27.35	26.80	26.00
Beet pulp (molasses), Los Angeles	do.	46.50	45.50	45.90	50.50	48.40	46.30	46.70
Alfalfa meal, 17%, dehydrated, Kansas City	do.	39.10	42.40	38.20	45.40	43.70	41.90	42.50
Tallow, inedible price, Chicago	Cents per lb.	.046	.058	.068	.081	.083	.079	.081
Urea, 42% N., Ft. Worth (bagged)*	Dol. per ton	N.A.	N.A.	71.00	71.00	71.00	71.00	71.00
PRICES PAID BY FARMERS								
Soybean meal, 44%	Dol. per cwt.	5.30	5.31	5.36	5.46	5.45	5.42	5.56
Cottonseed meal, 41%	do.	5.28	5.03	4.97	5.26	5.24	5.26	5.36
Wheat bran	do.	3.49	3.48	3.40	3.65	3.65	3.59	3.59
Wheat middlings	do.	3.59	3.59	3.50	3.74	3.72	3.66	3.67
Broiler grower feed	Dol. per ton	89.00	90.00	92.00	93.00	94.00	93.00	94.00
Laying feed	do.	81.00	80.00	80.00	83.00	82.00	83.00	84.00
Dairy feed, 16%	do.	72.00	71.00	71.00	73.00	73.00	73.00	73.00
Beef cattle feed, 30% and over	Dol. per cwt.	4.77	4.65	4.68	4.73	4.74	4.85	4.74
Hog feed, over 29%	do.	6.27	6.36	6.45	6.57	6.60	6.55	6.71
Alfalfa hay, baled	Dol. per ton	33.20	33.60	32.40	35.20	34.70	32.60	32.70
PRICE INDEXES (1957-59=100)								
Feed grains, prices received by farmers	Pct.	98	101	106	102	105	107	109
Eleven high-protein feeds, at principal markets	do.	130	126	131	133	130	134	143
Five oilseed meals	do.	138	132	136	135	130	137	149
Tankage, meat meal, and fish meal	do.	103	111	121	139	135	131	132
Gluten feed, brewers' dried grains, and distillers' dried grains	do.	114	115	112	117	119	120	123
Feed, prices paid by farmers	do.	102	102	103	105	106	106	107
LIVESTOCK AND POULTRY-FEED PRICE RATIOS 1/	Average (July)							
Hog-corn, Omaha 2/	1965-69=19.3	16.9	18.5	21.6	20.0	19.3	18.3	19.6
Hog-corn, U.S.	1965-69=19.2	17.9	18.9	21.1	20.7	19.4	19.2	19.3
Beef steer-corn, Chicago 3/	1965-69=21.7	24.5	25.4	24.8	25.0	23.4	22.8	22.8
Milk-feed, U.S.	1965-69= 1.51	1.66	1.74	1.64	1.72	1.66	1.64	1.66
Egg-feed, U.S.	1965-69= 8.0	7.8	9.5	9.4	8.5	7.3	7.3	8.7
Broiler-feed, U.S.	1965-69= 3.5	3.1	3.3	3.8	2.9	3.0	2.9	2.9
Turkey-feed, U.S.	1965-69= 4.7	4.4	4.7	4.7	5.4	5.1	5.0	4.8

1/ Units of corn or other concentrates ration equal in value to 100 pounds of hog or beef steer, one pound of chicken, milk, or one dozen eggs. 2/ Based on packer and shipper purchases of hogs and No. 3 Yellow corn. Replaces Chicago; see table 30 for earlier months and years. 3/ Based on price of beef steers all grades sold out of first hands for slaughter, and No. 3 Yellow corn. *Price series at Houston discontinued.

Prices compiled from Chicago Board of Trade, Minneapolis Daily Market Record, Kansas City Grain Market Review, National Provisioner, Feedstuffs, and reports of the Consumer and Marketing Service.

THE FEED SITUATION

The outlook for feed supply and use is based on August 1 crop conditions. At that time Southern corn leaf blight was prevalent in the South and had been discovered in areas of the Corn Belt. The infection has since spread into the main corn-producing areas.

At this time there can be no accurate estimates of crop losses that will result from the disease. Thus, supply and use estimates in this issue of the Feed Situation are considered much more tentative than usual. Surveys now being made should give a clearer picture of the damage. This evaluation will be included in USDA's September 1 Crop Report to be released on September 11. From now through September will be a critical period for fungus development, but the extent of damage cannot be fully appraised until harvesttime.

The disease is caused by a new race of fungus parasite. Damage depends on the stage of growth in individual fields and weather conditions; wind carries the spores, and moisture is needed for spores to germinate.

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SPECIAL ARTICLE

FEED GRAINS IN THE SEVENTIES 24-31

* *

Approved by

The Outlook and Situation Board

August 21, 1970

The summary and a feed grain supply-use table was released on the above date

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Principal contributors:

Malcolm Clough

Jack S. Ross

Economic and Statistical Analysis
Division, Economic Research Service
U.S. Department of Agriculture
Washington, D.C. 20250

SUMMARY

The 1970/71 feed grain supply will total about 222 million tons, based on the August 1 Crop Report, a little below last year's big supply, but 16% above the 1964-68 average. Hot, dry weather in the Central Plains reduced the August forecast to only slightly above 1969, and the 1969/70 ending stocks will likely be down moderately.

Expanding use in 1970/71 likely will exceed 1970 production, bringing further reduction in carryover at the close of the season. A prospective 4% increase in the number of grain-consuming livestock points to a rise in domestic feed use, although livestock-feed price ratios are expected to be less favorable. Based on August 1 indications, exports may continue near this year's level. Europe, a good customer, is expected to have less grain for feeding--but export competition from Southern Hemisphere countries will remain keen.

Both domestic use and exports of feed grains are up this year, bringing estimated use in 1969/70 to 178 million tons, 10 million more than in 1968/69. This would cut the prospective carryover to around 47 million tons.

Feed grain prices through July 1969/70 averaged 3% above 1968/69. Higher corn and grain sorghum prices more than offset lower oat and barley prices. Continued strong demand (especially by hog and poultry producers) will hold prices above a year earlier this fall and winter.

Farmers placed 16 million tons of 1969-crop feed grains under loan, about 1½ million less than last year. CCC sales through mid-August (marketing year basis) totaled almost 4 million tons, up nearly 3 million from last year. About 2.3 million tons were sold for export and 1.6 million domestic.

The 1970/71 corn supply was estimated on August 1 at slightly below last season. The August crop report indicated a 115-million-bushel larger crop this year, but a drop in old-crop carryover on October 1 is expected to be a little more offsetting. Disappearance in 1970/71 likely will exceed the crop, resulting in a further reduction in carryover at the close of the season. Prices will continue above a year earlier this fall but will be sensitive to changes in the crop and demand forces.

The prospective grain sorghum supply is off 10% from last season. But the oat supply is up 5% and the barley supply 4%; both grains are 20% to 25% above the 1964-68 average.

The 1969/70 high-protein feed supply is estimated at 20 million tons, 9% larger than in 1968/69 as more protein feed is required to balance increased usage of grain concentrates. Practically all of the increase is in soybean meal. Supplies of most other proteins are either down or little changed from last year.

Wheat feeding likely will remain relatively heavy this summer as wheat prices are near or below feed grain prices in many areas. Feeding in the current (October-September) feeding year is estimated at close to 200 million bushels, continuing the high levels of recent years.

The 1970 hay crop is forecast at 126 million tons, slightly below last year's record. Production is indicated at near or above last year in all areas except the North Central and South Atlantic Regions where it was curtailed by inadequate moisture during July.

FEED GRAINS

1969/70 Season

Strong Demand and Heavy Usage

The 1969/70 season has seen near-record feed supplies, favorable livestock-feed price ratios, and heavy domestic use of feed grains. Although the 1969 crop was second only to the bumper crop of 1967, total use is expected to exceed production by 3 million tons, reducing the 1970/71 carryover to 47 million tons.

Domestic use totaled 124 million tons during October-June, 5% more than in that period last year. Use for the entire year will be around 158 million tons, up 9 million.

Exports Up This Year

Exports probably will total close to 20 million tons, about 1.5 million more than last year. During October-June, 15.5 million tons were exported, 3.3 million more than in the same period of 1968/69. But during July-September, they are expected to fall below the 6.2 million tons shipped in that quarter of 1968/69.

Smaller Carryover in Prospect

The carryover into 1970/71 is expected to be about 3 million tons less than a year earlier. But more of the carryover probably will be Government stocks (under loan or owned by CCC) than at the beginning of 1969/70. Privately owned ("free") carryover was at a record high of close to 19 million tons in 1967 and 1968 then dropped to about 16½ million at the beginning of 1969/70.

The 77 million tons of feed grains on hand July 1 totaled 2.4 million tons less than on that date last year. Government stocks, totaling nearly 41 million tons, were practically the same as a year earlier. July 1 "free" stocks were down 2.6 million tons to 36.3 million (table 3).

1970/71 Season

Smaller Supply in Prospect

The 1970/71 feed grain supply will total about 222 million tons on the basis of August 1 indications, 3 million tons less than in 1969/70. The 1970 crop was estimated at 175 million tons based on August 1 conditions, virtually the same as last year. The demand for feed grains is expected to continue strong and exceed the crop, leaving a smaller carryover at the close of the season than the 47 million tons at the beginning.

The 120 million acres planted to feed grains this year are 4½ million more than in 1969. But growing conditions have not been as good as they were last year. Hot, dry weather also has reduced yield prospects in the Central Plains and Western Corn Belt. The combined yield per harvested acre was estimated on August 1 at 1.74 tons, 5% below last year's record.

Total May Increase

The demand for feed grains during the coming year is expected to remain strong. Some further increase in total requirements would reflect the increasing production of hogs and other livestock. Even assuming a lower rate of feeding per animal unit than in 1969/70, domestic use may still equal or exceed the 158 million tons estimated for 1969/70.

Based on August 1 indications, exports in 1970/71 may continue near this year's level. While feed grain supplies are expected to continue generally large in Europe, less wheat will be available for feeding. Supplies are expected to continue large in other major surplus producing countries, although the 1970/71 growing season will have an important bearing on the competition these countries will offer in the second half of our 1970/71 marketing year.

Table 2.--Feed grains: Supplies and utilization, United States, average 1964-68, annual 1967-70

Marketing year 1/	Supply				Utilization				
					Domestic use				
	Carry-over	Production	Imports 2/	Total	Feed 3/	Food, industry and seed	Total domestic	Exports 2/	Total use
					Million bushels				
					CORN				
Average 1964-68	1,102	4,168	1	5,271	3,302	368	3,670	583	4,253
1967	823	4,760	1	5,584	3,412	377	3,789	633	4,422
1968	1,162	4,393	1	5,556	3,522	385	3,907	536	4,443
1969 4/	1,113	4,578	1	5,692	3,774	393	4,167	575	4,742
1970 4/	950	4,693	1	5,644					
					GRAIN SORGHUM				
Average 1964-68	428	675	---	1,103	547	13	560	187	747
1967	244	756	---	1,000	532	13	545	166	711
1968	289	740	---	1,029	622	13	635	106	741
1969 4/	288	743	---	1,031	653	13	666	115	781
1970 4/	250	680	---	930					
					OATS				
Average 1964-68	290	862	3	1,155	733	103	836	16	852
1967	270	789	3	1,062	675	104	779	10	789
1968	273	939	2	1,214	726	105	831	8	839
1969	375	950	2	1,327	724	109	833	5	838
1970 4/	489	903	2	1,394					
					BARLEY				
Average 1964-68	119	393	9	521	218	126	344	45	389
1967	122	373	8	503	205	129	334	31	365
1968	138	423	10	571	227	132	359	13	372
1969	199	417	13	629	240	140	380	17	397
1970 4/	232	410	10	652					
					TOTAL FEED GRAINS				
					Million tons				
Average 1964-68	50.3	158.8	.3	209.4	124.7	15.4	140.1	22.9	163.0
1967	37.1	176.0	.3	213.4	126.1	15.7	141.8	23.3	165.1
1968	48.3	168.9	.3	217.5	133.1	16.0	149.1	18.4	167.5
1969 4/	50.0	174.2	.4	224.6	141.3	16.5	157.8	19.8	177.6
1970 4/	47.0	174.7	.3	222.0					

1/ October-September for corn and sorghum grain; July-June for oats and barley. 2/ Includes grain equivalent of products. 3/ Residual; includes small quantities for other uses and waste. 4/ Preliminary; based on August 1,1970 indications.

CORN

1969/70 Season

Use to Reach About 4.7 Billion Bushels

Total use of corn, at a record pace during October-June, is expected to total over 4.7 billion bushels for the entire marketing year. Domestic use is expected to total almost 4.2 billion bushels, 7% more than in 1968/69 and nearly 14% above the 1964-68 average. The heavy use this year has resulted from a favorable relationship of corn prices to those of livestock and livestock products and a substantial recent increase in hog production. Total disappearance is expected to be around 165 million bushels larger than 1969 production, leaving an October 1 carryover of around 950 million bushels.

Price Advance Greater Than Normal

The seasonal advance in prices received by farmers through July was a little more than usual. The mid-July price received by farmers was $1.24 a bushel, a 16% rise from the seasonal low in November. A typical rise from fall to summer is 12%. Prices during October-July averaged $1.14 a bushel, 4¢ more than last year. Heavy domestic use and exports during October-June this year have tended to tighten up "free" supplies.

July 1 Stocks Down

The 1,923 million bushels of corn on hand July 1 totaled 145 million less than on that date last year. Of this quantity, 915 million were under loan and owned by CCC, and 1,008 million privately owned. Government stocks were 42 million bushels less than a year ago, while "free" stocks were 103 million bushels smaller. "Free" stocks of corn on July 1 were below prospective requirements (domestic use and exports plus an allowance for "free" carryover on October 1) and farmers are again redeeming substantial quantities of corn during July-September to take care of domestic needs and exports.

Most Corn Under Loan in West North Central Region

Of some 650 million bushels of corn under regular loan and reseal on June 30, the West North Central States of Minnesota, Iowa, Missouri, the Dakotas, Nebraska and Kansas accounted for about 578 million or 89%. Only about 10% was in the East North Central States of Ohio, Illinois, Indiana, Michigan and Wisconsin (table 4).

Practically all of the 136 million bushels of the 1964, 1965 and 1966 reseal corn for which loans were not extended was in the West North Central Region. Producers have the option of extending their loans, redeeming or delivering 1967-69 crop corn, which totaled 242 million bushels in July. Over 90% of this corn also was in the Western Corn Belt States. About 219 million bushels of 1969 corn remained under loan on July 1. Repayment costs on this corn is lower than for the resealed corn and averaged about 11¢ under the mid-July farm price in the West North Central Region.

The redemption cost was about 19¢ under the July 15 farm price in the East North Central Region where 49 million bushels were held.

1970/71 Season

Smaller Supply

Based on August 1 indications, a corn supply of about 5.6 billion bushels is in prospect for 1970/71, 1% below 1969/70. The crop was estimated on August 1 at nearly 4.7 billion bushels, a little above the 1969 crop. The October 1 carryover is expected to be down about 15% to around 950 million bushels. The 58 million acres to be harvested for grain this year would be 3.5 million more than in 1969. Yield per acre, however, was estimated at 3 bushels lower than the record of nearly 84 bushels last year.

Table 3.--Feed grain stocks: Government and "free," July 1, 1969 and 1970

Item	Corn		Grain sorghum		Oats		Barley		Total 4 feed grains	
	1969	1970	1969	1970	1969	1970	1969	1970	1969	1970
	Million bushels								Million tons	
Under loan 1/										
Old grain resealed	392	378	51	34	40	78	29	64	13.7	14.3
Under price support from preceding crop 2/	295	273	46	29	64	114	69	34	12.2	11.1
Owned by CCC	270	264	193	168	61	115	27	55	14.6	15.3
Total Government	957	915	290	231	165	307	125	153	40.5	40.7
"Free" 3/	1,111	1,008	96	117	210	182	74	79	38.9	36.3
Total all positions	2,068	1,923	386	348	375	489	199	232	79.4	77.0

1/ Based on reports of Agricultural Stabilization and Conservation Service. 2/ Total quantity placed under loan less repayments and deliveries to CCC through June 30. 3/ Residual; privately held stocks.

Table 4.--Corn: Loans outstanding, cost of redemption and prices in North Central Region, July 1970

Crop of	East North Central States 1/				West North Central States 2/			
	Net under loan July 1	Loan rate 3/	Approximate redemption cost July 1	Difference from $1.31 July 1970 farm price 4/	Net under loan July 1	Loan rate 3/	Approximate redemption cost July 1	Difference from $1.17 July 1970 farm price 4/
	Mil. bu.	Dol. per bu.			Mil. bu.	Dol. per bu.		
1964	1	1.11	1.33	- .02	30	1.04	1.26	- .09
65	2	1.07	1.25	+ .06	32	1.00	1.18	- .01
66	2	1.01	1.16	+ .15	69	.94	1.09	+ .08
67	7	1.08	1.19	+ .12	120	1.02	1.13	+ .04
68	7	1.09	1.16	+ .15	108	1.03	1.10	+ .07
69	49	1.09	1.12	+ .19	219	1.03	1.06	+ .11
Total	68	---	---	---	578	---	---	---

PRICES - Farm and Market

	Received by farmers	No. 2 Yellow 5/		Received by farmers	No. 2 Yellow 5/	
		Chicago	Toledo		Omaha	Minneapolis
	Dol. per bu.			Dol. per bu.		
Mid-July						
1969	1.20	1.25-1.29	1.30	1.14	1.20-1.25	1.22-1.24
1970	1.31	1.34-1.38	1.38	1.17	1.27-1.30	1.26-1.27

1/ Ohio, Indiana, Illinois, Michigan and Wisconsin. 2/ Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska and Kansas. 3/ Weighted by State's corn production. Basis No. 3 grade 1964-66 crops; No. 2 grade 1967-69 crops. 4/ Farm price above (+) or below (-) cost of redeeming loan. 5/ Closing cash quotations about the middle of the month.

Table 5.--Corn: Price support activity, monthly, 1967-69 crops

Item	Unit	Cumulative through:											
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June 1/	July 1/	Aug. 1/	Sept. 1/
1967 Crop Loan $1.05 a bu.													
Placed under price support 2/	Mil. bu.	5	52	194	347	387	411	420	427	439	447	453	497
Redemptions	"	---	---	---	2	5	11	21	34	49	69	88	95
Delivered 2/	"	---	---	---	---	---	---	---	---	1	1	21	77
Net under loan	"	5	52	194	345	382	400	399	393	389	377	344	325
Farm price	$ a bu.	1.04	.975	1.03	1.04	1.06	1.06	1.06	1.09	1.07	1.04	.986	1.01
Price above + or below - loan	¢ a bu.	-1	-7	-2	-1	+1	+1	+1	+3	+2	-1	-6	-4
1968 Crop Loan $1.05 a bu.													
Placed under price support	Mil. bu.	10	72	180	330	367	385	393	396	399	402	403	404
Redemptions 2/	"	---	---	1	3	9	17	33	63	104	154	212	248
Delivered	"	---	---	---	---	---	---	---	---	---	---	7	8
Net under loan	"	10	72	179	327	358	368	360	333	295	248	184	148
Farm price	$ a bu.	.962	1.04	1.05	1.08	1.09	1.09	1.12	1.19	1.18	1.18	1.18	1.15
Price above + or below - loan	¢ a bu.	-9	-1	0	+3	+4	+4	+7	+14	+13	+13	+13	+10
1969 Crop Loan $1.05 a bu.													
Placed under price support	Mil. bu.	9	52	167	337	366	382	390	393	395	397		
Redemptions	"	---	---	---	4	12	28	47	76	123	185		
Delivered	"	---	---	---	---	---	---	---	---	---	---		
Net under loan	"	9	52	167	333	354	354	343	317	272	212		
Farm price	$ a bu.	1.12	1.07	1.09	1.12	1.14	1.13	1.15	1.18	1.21	1.24		
Price above + or below - loan	¢ a bu.	+7	+2	+4	+7	+9	+8	+10	+13	+16	+19		

1/ Includes transactions completed after the expiration of the June 30 loan application date. 2/ Includes non-recourse loan, deliveries under the purchase program and quantity resealed not previously put under loan.

Table 6.--Feed grains: Quantity of 1968 and 1969 crops placed under loan, repayments, deliveries to CCC and loans outstanding through July 31, 1969 and 1970

Feed grain	Placed under loan		Loans repaid		Quantities delivered to CCC		Loans outstanding July 31 1/	
	FROM CROP OF:							
	1968	1969	1968	1969	1968	1969	1968	1969
	Million bushels							
Corn	402	397	154	185	---	---	248	212
Grain sorghum	74	41	34	15	3	---	37	26
Oats	89	153	18	18	14	36	57	99
Barley	116	52	37	20	21	3	58	29
Total (1,000 tons)	17.5	16.0	6.4	6.3	0.8	0.5	10.3	8.9

1/ Includes quantities remaining under original loan program and any grain resealed.

Compiled from ASCS operating reports.

Consumption to Continue Heavy

Consumption of corn is expected to continue heavy in 1970/71 in view of increasing hog numbers and some further expansion in prospect for broiler production and cattle feeding. Based on August 1 prospects, exports are expected to about equal 1969/70's estimated total of 575 million bushels. Total use is expected to exceed the indicated 1970 production, bringing some further reduction in the carryover at the end of the year.

GRAIN SORGHUM

1969/70 Season

Record Feeding and Increased Exports Seen

Use of grain sorghum is expected to total around 780 million bushels this year with the quantity fed to livestock reaching an alltime high of over 650 million bushels. Increased consumption by livestock has been largely due to the marked increase in beef cattle feeding in the Southwest where consumption has increased at a faster rate than production in the past 5 years.

Along with the rise in domestic feeding, exports have made a stronger showing during the summer than expected. For the current marketing year, exports are estimated at 115 million bushels, 8% above 1968/69. Much of the increase probably was due to sorghum becoming a more attractive buy than corn during the summer. U.S. sorghum exports to Japan in October-June totaled 51 million bushels, 6 million more than a year earlier. During October-March, corn was relatively cheaper than sorghums and corn exports to Japan through June totaled 135 million bushels, 56 million more than a year earlier. Japan has been our No. 1 buyer of feed grains since the mid-1960's.

Milo Price More Competitive

Prices declined relative to corn this spring and summer. In June and July, the average prices received for grain sorghum were only 83% to 87% of corn or below the long-term average. Last fall and winter the U.S. average prices ranged from 95% to 100%. The recent price adjustment has made grain sorghums more competitive with corn this summer, both for domestic use and export. The relatively smaller 1969 crop of grain sorghums in the Texas-Oklahoma area resulted in relatively high prices in that area during much of the 1969/70 marketing year. This summer, however, sorghum prices in the Southern Great Plains area have fallen below average in relation to corn.

1970/71 Season

Smaller Supply

The 1970/71 grain sorghum supply was estimated on August 1 at 930 million bushels, about 100 million below 1969/70 and the smallest since 1958. The crop is forecast at 680 million bushels, 8% smaller than last year but near the 5-year average. The acreage harvested for grain is practically the same as last year but yield is expected to dip 5 bushels under last year, interrupting an upward trend underway for a number of years.

The 1970 growing season has been less favorable for sorghums in the main producing area. Dry weather reduced crop prospects in Nebraska and Kansas. The combined production forecast in Kansas-Nebraska is 82 million bushels smaller than in 1969 and 38 million bushels below average. However, the Texas crop was estimated at 332 million bushels, 7% larger than last year and about 10% above the 5-year average.

Carryover stocks have been reduced substantially during the past 5 years as domestic use has increased at a faster pace than production. The prospective 250-million-bushel carryover for this

Table 7.--Corn: Loan rates and prices received by farmers per bushel in July, North Central States, 1967, 1968 and 1969 crops

State	1967 Crop		1968 Crop		1969 Crop	
	Range in county loan rates	Prices received by farmers in July 1968	Range in county loan rates	Prices received by farmers in July 1969	Range in county loan rates	Prices received by farmers in July 1970
	Dol. per bu.					
Ohio	1.07-1.19	1.00	1.08-1.20	1.22	1.08-1.20	1.30
Indiana	1.06-1.11	1.00	1.07-1.12	1.19	1.07-1.12	1.29
Illinois	1.05-1.11	1.03	1.06-1.12	1.22	1.06-1.12	1.32
Michigan	1.07-1.11	.95	1.08-1.12	1.16	1.08-1.12	1.24
Wisconsin	1.06-1.11	1.10	1.07-1.12	1.16	1.06-1.12	1.24
Minnesota	.96-1.03	1.02	.97-1.04	1.10	.97-1.04	1.13
Iowa	.97-1.05	1.02	.98-1.06	1.14	.98-1.06	1.18
Missouri	1.05-1.14	1.13	1.06-1.15	1.24	1.06-1.15	1.30
North Dakota	.97- .97	1.02	.98- .98	1.04	.98- .98	1.06
South Dakota	.96-1.07	1.10	.97-1.08	1.09	.97-1.08	1.07
Nebraska	1.00-1.09	1.10	1.01-1.10	1.14	1.01-1.10	1.15
Kansas	1.04-1.13	1.14	1.05-1.14	1.15	1.05-1.14	1.18

Table 8.--Feed grains and wheat: Wholesale prices at principal markets, 1968-70

Year beginning	Corn, No. 3 Yellow						Grain sorghums, No. 2		
	Chicago			Omaha			Kansas City		
	1968	1969	1970	1968	1969	1970	1968	1969	1970
	Dol. per bu.						Dol. per cwt.		
October	1.06	1.16		1.10	1.13		1.81	2.08	
November	1.13	1.15		1.15	1.13		1.88	2.08	
December	1.14	1.15		1.11	1.13		1.90	2.06	
January	1.18	1.22		1.19	1.18		1.96	2.06	
February	1.16	1.23		1.16	1.23		1.95	2.04	
March	1.15	1.22		1.15	1.15		1.94	2.01	
April	1.20	1.26		---	1.20		1.98	2.04	
May	1.30	1.30		---	1.21		2.02	1.98	
June	1.30	1.34		1.24	1.30		2.04	2.08	
July	1.27	1.38		1.20	1.28		2.07	2.12	
August	1.28			1.21			2.11		
September	1.19			1.14			2.08		

Year beginning	Oats, No. 2			Barley, No. 3			Wheat, No. 1, Hard Winter		
	Minneapolis			Minneapolis			Kansas City		
	1968	1969	1970	1968	1969	1970	1968	1969	1970
	Dol. per bu.								
July	.658	.598	.641	1.07	1.09	1.12	1.40	1.36	1.45
August	.604	.595		1.05	1.00		1.39	1.45	
September	.627	.617		1.20	1.06		1.37	1.48	
October	.641	.654		1.18	1.08		1.48	1.55	
November	.687	.655		1.16	1.07		1.53	1.54	
December	.670	.656		1.14	1.07		1.51	1.56	
January	.704	.656		1.19	1.06		1.51	1.54	
February	.692	.648		1.18	1.06		1.47	1.58	
March	.661	.635		1.17	1.07		1.54	1.47	
April	.667	.665		1.17	1.09		1.51	1.58	
May	.670	.680		1.19	1.15		1.47	1.56	
June	.614	.659		1.14	1.16		1.33	1.38	

October 1 would be only about half as large as carryover stocks 5 years ago.

Requirements Again to Exceed Production

Domestic use and exports combined probably will again exceed production in 1970/71, resulting in a further decline in the carryover. Expansion in cattle feeding in the Southwest has accounted for much of the increase in domestic use during the past 5 years. In 1969/70 about 666 million bushels will be consumed, 5% more than last year and nearly 20% above the 5-year average.

Price Prospects

The smaller grain sorghum crop this year may result in less than the usual seasonal decline in prices this fall. Prices for the season are again expected to average well above the loan rate of $1.61 per cwt. Price support activity probably will again be small, with relatively little grain delivered to CCC from the 1970 crop. The comparatively small production in Nebraska and Kansas probably will bring relatively higher grain sorghum prices in that area.

Cattle on feed in:	July 1, 1970	% change from-- April 1, 1970	% change from-- July 1, 1969
	1,000 head		
Calif.	951	+25	-12
Ariz.	146	+ 3	- 6
N. M.	183	- 6	- 6
Tex.	1,353	+ 9	+13
Okla.	217	+13	+11
Kan.	731	- 3	+18
Neb.	1,189	-15	- 1
Colo.	774	+ 3	+19
Total or av.	5,544	+18	- 1

OATS

Another Big Supply for 1970/71

Big crops and increasing carryover stocks during the past 3 years have raised the oat supply for 1970/71 to 1,394 million bushels. This is 5% above a year ago and the largest supply in 10 years. The supply consists of the 1970 crop of 903 million bushels (down 5% from 1969), but record-high carryover stocks of 489 million (up 30% from 1969).

Oat supply increases in recent years are largely in Minnesota, the Dakotas, Nebraska and Montana, where both expanding acreage and rising yields have prevailed. In these States, 1969 production was 33% above the 1962-66 average. Total disappearance was only slightly above in the same period. While the 1970 crop was down from last year it was 15% above average.

Oat production in the Central and Eastern Corn Belt was below the 5-year average and in closer balance with requirements.

Government Stocks Increase

Declining for several years before 1968, crops have subsequently increased. The 1970 crop would be the third consecutive production of over 900 million bushels. Production since 1968 was well above usage, resulting in a buildup in carryover, particularly in government positions. Government stocks (under loan and owned by CCC) amounted to almost 307 million bushels on July 1, 142 million more than on that date a year ago.

Increase in Feeding Probable

Domestic feeding in 1970/71 probably will show some gain over the preceding year. Food usage has been stable in recent years at about 45 million bushels. There is considerable uncertainty for oat exports in 1970/71. Exports dropped to only 5 million bushels in 1969/70.

Table 9.--Oat supply and disappearance by areas

Year beginning July	Five Northern States 1/	Six Midwestern States 2/	Other States	U.S.
	Million bushels			
	July 1 carryover			
Average 1962-66	158	98	35	291
1967	158	85	27	270
1968	168	81	24	273
1969	231	110	34	375
1970	353	93	43	489
	Production			
Average 1962-66	363	390	159	912
1967	354	314	121	789
1968	427	363	149	939
1969	481	317	152	950
1970	418	311	174	903
	Supply 3/			
Average 1962-66	521	488	194	1,203
1967	512	399	148	1,062
1968	595	444	173	1,214
1969	712	427	186	1,327
1970	771	404	217	1,394
	Apparent disappearance			
Average 1962-66	355	396	166	917
1967	344	318	127	789
1968	364	334	141	839
1969	359	334	145	838

1/ Minn., N. Dak., S. Dak., Nebr., and Mont. 2/ Ohio, Ind., Ill., Mich., Wis., and Iowa. 3/ Because imports are included, U.S. supplies do not add to total.

Prices Below Loan

With harvesting of the third consecutive large crop, the U.S. average oat price in July was 58¢ a bushel, 5¢ under the loan rate. This was about the same as a year ago, but 5¢ under the 1964-68 average for the month. Prices were particularly low in the Dakotas, Minnesota and Montana where supplies are heavily concentrated. July farm prices in the Dakotas were 14¢ to 18¢ a bushel under the Wisconsin price.

Oats: July farm prices

Year	East North Central Region	West North Central Region	United States
	Cents per bu.		
Average 1964-68	64	61	63
1969	58	55	58
1970	60	55	58

The principal factor supporting oat prices, in view of the large supplies prevailing in recent years, has been in government support program. Producers in 1969/70 put a record 153 million bushels or 16% of their crop under loan. The previous high of 87 million or 9% of the crop was in 1968/69.

A second factor associated with oat prices is a drop in demand despite oats being a favorable buy over most other feed grains. Dairymen report that they are putting less oats in their rations. In 1969, oats comprised only 11% of total concentrate ration fed to milk cows, compared with 15% only 5 years ago when oat production was smaller, and 22% a decade ago.

With prospects for improved demand, oat prices in 1970/71 likely will average above last year's 58¢ a bushel level.

BARLEY

Supply Increases Fourth Consecutive Year

Barley supplies for 1970 are forecast at 652 million bushels, 23 million more than a year ago. The crop forecast of 410 million bushels is little changed from the 1969 crop. Lower production in the North Central States was about offset by a larger crop in the Western States.

The 232 million bushels of carryover stocks on July 1 were 33 million more than last year and the highest ever. The carryover consisted of 79 million bushels of "free" and 153 million under loan and owned. Thus, "free" supplies ("free" carryover and production) to start the 1970/71 marketing season totaled 489 million bushels, virtually the same as a year ago.

Government Sales Boost U.S. Exports

CCC sales of some 37 million bushels of barley to foreign countries under the export sales program boosted the April-June volume and also will raise shipments in the July-September quarter. About half of the total moved out during April-June. Most of the rest is being shipped in July-September.

Exports for the 1969/70 season were 17 million bushels, 4 million more than last year but less than half of the 1964-68 average.

Use Expected to Increase

Total barley use in 1970/71 probably will show some increase over the 397 million bushels used in 1969/70. Being relatively lower priced than corn and grain sorghum, barley increased moderately in feed use during the past 2 years--not enough, though, to offset the big crops. Consequently, carryover stocks have increased from 100 million bushels in 1965 to a record 232 million on July 1, 1970.

Other principal uses--malt liquors and distilled spirits--have been trending upward in the last decade. About 115 million bushels of barley went into the production of fermented malt liquors and distilled spirits and alcohol in 1969/70. This compares with 85 million bushels in 1960/61, giving a yearly average increase of 3 million bushels. Malt liquors and alcohol are important outlets for barley, making up 25-30% of total domestic usage. The uptrend in output of malt liquors and alcohol from barley likely will continue in 1970/71.

Price Prospects

Barley prices received by farmers in 1969/70 averaged 88¢ a bushel, 4¢ under the year before. This was 5¢ above the 1969 loan rate of 83¢ per bushel. The previous year price of 91¢ averaged 1¢ over the 1968 loan rate. However, the big difference was that in 1969 program participants earned price support payments averaging about 15¢ a bushel. While the loan was higher in 1968 than in 1969, the 1968 program contained no provisions for support payments.

Barley prices are expected to average above the loan rate again in 1970/71. Cash prices at Minneapolis were lower during April-June this year than last, but they did not drop as sharply with the harvesting of the new crop. In early August, No. 3 or better averaged around $1.00 per bushel, 12¢ higher than a year earlier.

There is a good probability of some further increase in feed usage and eligible producers likely will not be as active in the price support program as they were in 1969/70. Out of their 1969 crop, producers entered 52 million bushels under loan, substantially under the record 116 million placed under loan from the 1968 crop. The drop in 1969/70 loan activity was due primarily to the reduction in the loan rate.

FEED CONCENTRATES AND ANIMAL UNITS

Concentrate Feeding Up 10 Million Tons in 1969/70

Heavy feeding of the increased number of livestock this year is expected to bring total domestic feeding of grains and other concentrates to 182 million tons for the 1969/70 feeding year. This would be about 10 million tons more than last year and 22 million above the 1964-68 average. This includes an estimated 141 million tons of feed grains, about 6 million of wheat and rye, and 35 million of processed feeds (table 10).

Concentrate feeding is expected to continue heavy in 1970/71 due to a prospective increase in the number of livestock and poultry--likely rising 3% or 4% from the 117.5 million animal units fed in 1969/70. Assuming livestock will be eating at a little lower rate than the 1.55 tons per animal unit in 1969/70, a total of about 184 million tons would be fed in 1970/71. The actual consumption of feed will depend to some extent on the final size of the 1970 feed grain crop and feed prices relative to livestock prices. Generally lower prices of livestock and poultry in relation to feed probably will curtail feeding per animal, which has been trending generally upward in recent years.

Livestock Feed Price Ratios Become Less Favorable

Livestock feed price ratios have declined this summer from the very favorable levels of last fall and winter (table 29). For October-July, livestock prices averaged higher in relation to feed prices than in any of the past 15 years. While livestock prices are now lower in relation to feed costs than they were last winter, the ratios as of July were generally near average or above. The major exception was the broiler-feed ratio which in July was much below both a year ago and the 1965-69 average. Higher feed prices and lower prices of some types of livestock are expected to bring lower feed price ratios during the coming year.

The hog-corn price ratio, based on U.S. average prices, declined from a record 24.0 in February to 19.3 in July. A further decline appears likely with increasing hog production this fall and winter.

The beef steer-corn price ratio (Chicago basis) held well above the 5-year average during the first half of 1970. In July the ratio averaged 22.8 compared with 24.8 for July last year and 21.7 for the 5-year average.

The milk-feed price ratio also continues well above average. Egg and turkey prices have fallen to near average in relation to feed costs this summer, while the broiler-feed price ratio is below average.

More Livestock To Be Fed in 1970/71

The number of livestock to be fed in 1970/71 is expected to increase a little over this year's level.

The prospective 17% increase in the 1970 fall pig crop will keep hog feeding well advanced through the first half of the 1970/71 feeding year. Broiler feeding will probably show a further moderate increase, and some further expansion in cattle feeding appears probable. While the number of dairy cows will likely continue downward, as in past years, increased feeding per cow will likely more than offset the decline in cow numbers.

Wheat Competitive With Feed Grains

Farmers have received higher prices for both wheat and feed grains during the summer than a year ago. Even so, wheat has remained cheaper than feed grains in many areas of the Nation. Prices in the Mid-Atlantic, South Atlantic, and North Central States are particularly favorable for wheat feeding (table 12). In these areas, wheat prices in July ranged from 11¢ to 44¢ a cwt. below corn. Wheat prices

Table 10.--Feed concentrate balance, animal units, and feed per unit, average 1964-68, annual 1965-70

Item	Year beginning October 1/						
	1964-68 average	1965	1966	1967	1968	1969 2/	1970 3/
	Million tons						
Supply of all concentrates	245.1	247.2	235.1	249.1	255.9	265.6	262.5
Concentrates fed 4/							
Feed grains	124.7	126.3	125.6	126.1	133.8	141.3	
Wheat and rye	4.2	3.6	3.9	4.6	5.5	6.0	
Byproduct feeds	31.3	31.1	31.2	31.1	32.9	35.0	
Total	160.2	161.0	160.7	161.8	172.2	182.3	
Grain-consuming animal units (Mil.)	109.8	106.3	111.5	111.5	113.7	117.5	122.0
Supply of all concentrates per animal unit (Tons)	2.23	2.33	2.11	2.23	2.25	2.26	2.14
All concentrates fed per animal unit (Ton)	1.46	1.51	1.44	1.45	1.51	1.55	

1/ Except oat and barley supplies which start on July 1.
2/ Preliminary.
3/ Based on August 1, 1970 indications.
4/ Total quantities fed, including domestically produced and imported grains and byproduct feeds.

Table 11.--Feed concentrates consumed by livestock and poultry, 1964-69

Item	Year beginning October						
	1964-68 average	1964	1965	1966	1967	1968	1969 1/
Concentrates fed (Mil. tons)							
October-June	124.9	115.7	125.8	125.1	123.3	134.7	141.3
July-September	35.3	29.5	35.2	35.6	38.5	37.5	
Total	160.2	145.2	161.0	160.7	161.8	172.2	
Grain-consuming animal units fed annually (Mil.)	109.8	105.9	106.3	111.5	111.5	113.7	117.5
Concentrates fed per grain-consuming animal unit (Ton)							
October-June	1.14	1.09	1.18	1.12	1.11	1.18	1.20
July-September	.32	.28	.33	.32	.34	.33	
Total	1.46	1.37	1.51	1.44	1.45	1.51	

1/ Preliminary.

Table 12.--Comparisons of feed grains and wheat: Prices received by farmers, July 15, 1968-70 1/

Region	1968	1969	1970	Region	1968	1969	1970
	Dol. per cwt.				Dol. per cwt.		
Mid-Atlantic				W. South Central			
Corn	2.05	2.46	2.55	Grain sorghum	1.74	1.82	1.93
Wheat	1.85	2.03	2.22	Wheat	2.07	1.98	2.07
Difference	-.20	-.43	-.33	Difference	.33	.16	.14
South Atlantic				Mountain			
Corn	2.11	2.48	2.59	Barley	1.90	1.91	1.68
Wheat	1.87	2.00	2.15	Wheat	1.95	1.95	1.98
Difference	-.24	-.48	-.44	Difference	.05	.04	.30
E. North Central				Pacific			
Corn	1.82	2.16	2.34	Barley	2.19	2.42	2.19
Wheat	1.92	1.92	2.15	Wheat	2.20	2.20	2.20
Difference	.10	-.24	-.19	Difference	.01	-.22	.01
W. North Central				U.S.			
Corn	1.86	2.02	2.09	Corn	1.86	2.11	2.21
Wheat	2.00	1.88	1.98	Wheat	1.98	1.92	2.05
Difference	.14	-.14	-.11	Difference	.12	-.19	-.16

1/ No adjustments made for relative feed values.

in the Pacific States differed little from barley prices. But in the West South Central States, wheat prices were 14¢ a cwt. above grain sorghum and in the Mountain States 30¢ above barley.

Wheat feeding for the 1969/70 (October-September) feeding year is expected to total 190 to 200 million bushels, a little above a year earlier. For the 1970/71 feeding season, feeding likely will continue at the relatively high level.

HIGH-PROTEIN FEED

Strong demand for feed during 1969/70 has brought both record feeding and higher prices for protein feeds. Through the first 9 months of the feeding year, protein feeding (soybean meal basis) totaled 15.3 million tons, 7% above a year earlier. The feeding rate also jumped sharply, and through June was running at a pace of 217 pounds per protein-consuming animal unit, 5 pounds more than a year ago. Total feed consumption for the year now is estimated at about 20.3 million tons, 1.6 million more than last year. The feeding rate for the entire year is expected to reach about 287 pounds per unit, 3% above the 1968/69 heavy feeding rate.

For the 1970/71 season starting in October, demand for protein feed likely will continue strong. Protein-consuming animal units are expected to increase about 3%, somewhat less than the expected 5% increase from 1968/69 to 1969/70. Total feeding probably will exceed the 1969/70 record level, but because of some

Table 13.--Oilseed meal: Supply and distribution, United States, 1968 and 1969

Year beginning October	Supply				Distribution		
	Stocks Oct. 1 1/	Production	Imports	Total	Domestic use (feed) 2/	Exports	Total
	1,000 tons						
1968 3/							
Soybean	145	14,581	---	14,726	11,525	3,044	14,569
Cottonseed	108	2,029	29	2,166	2,086	15	2,101
Linseed	14	267	2	283	197	78	275
Peanut	3	134	---	137	135	---	135
Copra	2	110	---	112	111	---	111
Total	272	17,121	31	17,424	14,054	3,137	17,191
1969 4/							
Soybean	157	17,725	---	17,882	13,700	4,000	17,700
Cottonseed	65	1,900	2	1,967	1,900	10	1,910
Linseed	8	270	2	280	175	90	265
Peanut	2	125	---	127	125	---	125
Copra	1	60	---	61	60	---	60
Total	233	20,080	4	20,317	15,960	4,100	20,060

1/ Stocks at processors' plants. 2/ Includes minor quantities of soybean meal used for industrial purposes and cottonseed meal used for fertilizer. 3/ Preliminary. 4/ Estimated (except for stocks)--on basis of indications in August 1970.

Table 14.--Processed feeds: Estimated use for feed, 1964-69 1/

Item	Year beginning October						
	Average 1964-68	1964	1965	1966	1967	1968	1969 2/
	1,000 tons						
HIGH-PROTEIN FEEDS							
Total oilseed meals	13,098	12,422	13,338	13,028	12,648	14,054	15,960
Animal proteins							
Tankage and meat meal	2,008	1,932	1,961	2,068	2,059	2,021	2,000
Fish meal and solubles	800	625	627	827	1,083	835	575
Milk products	686	751	729	680	650	620	640
Total	3,494	3,308	3,317	3,575	3,792	3,476	3,215
Grain protein feeds							
Gluten feed and meal	1,487	1,406	1,481	1,486	1,514	1,550	1,575
Brewers' dried grains	318	295	304	324	336	332	360
Distillers' dried grains	429	409	426	425	447	437	440
Total	2,234	2,110	2,211	2,235	2,297	2,319	2,375
OTHER PROCESSED FEEDS							
Wheat millfeeds	4,557	4,715	4,612	4,499	4,490	4,469	4,625
Rice millfeeds	442	395	395	451	476	494	500
Dried and molasses beet pulp	1,243	1,289	1,153	1,129	1,130	1,516	1,600
Alfalfa meal	1,600	1,536	1,652	1,599	1,550	1,664	1,675
Fats and oils	461	363	427	486	496	531	550
Molasses	3,046	2,900	2,860	3,060	3,100	3,310	3,450
Miscellaneous	1,100	1,100	1,100	1,100	1,100	1,100	1,100
Total	12,449	12,298	12,199	12,324	12,342	13,084	13,500
Total all processed feeds	31,275	30,138	31,065	31,162	31,079	32,933	35,050

1/ Adjusted for stocks, production, foreign trade and nonfeed uses where applicable. 2/ Preliminary; based on indications in August 1970.

slippage in livestock-feed price ratios, feeding rates may do well to hold their own.

Soybean Meal Feeding Unusually Heavy

Soybean processors operated at or near capacity during the present feeding year. Even so, cash meal prices rose to over $85 per ton at Decatur for short periods last winter as production could not keep pace with the strong demand.

For the entire season, soybean meal feeding is expected to reach 13.7 million tons, nearly a fifth more than last year; one of the sharpest year-to-year increases ever. Contributing to the record demand for soybean meal is relatively favorable livestock prices, more protein-consuming animals, short supplies and higher prices of fish meal and cottonseed meal.

Demand for soybean meal is expected to continue strong in 1970/71 with some further increase in use expected. Larger supplies of some of the other protein feeds also are expected, giving better balance of supplies. Fish meal may recover from the short 1969/70 supply situation. In addition, with a sharp increase in hog slaughter, tankage and meal meal production likely will make a moderate increase. Also, more cottonseed meal is in prospect.

At Decatur, monthly average soybean meal prices fluctuated widely in 1969/70--ranging from $70 to $88 a ton last fall and winter and between $71 and $87 in the spring and summer. Prices for the year will average around $78 a ton, $4 more than last year. Prices are expected to decline seasonally this fall from late August levels of around $85 but probably will not drop to the $70 per ton reached in November 1969. Demand from the hog and broiler producing sectors will continue strong despite prospects for increases in supplies of fish meal, tankage and meat meal and cottonseed meal.

More Cottonseed Meal

Prospects for 11% more cotton output in 1970 point to a similar increase in cottonseed meal supplies for the 1970/71 season. Feeding of cottonseed meal will close out the October-September 1969/70 season at about 1.9 million tons, nearly 10% under 1968/69.

Cottonseed meal prices (like soybean meal) have fluctuated widely since last fall. Memphis prices of 41% expeller ranged between $63 and $88 a ton last fall and winter and between $65 and $78 in the spring and summer. For the year, they will average about $7 a ton more than the previous season's $65. As supplies of new-crop meal become available, prices probably will decline seasonally this fall, but strong demand for protein feed likely will hold prices above the average of about $70 per ton for 1969/70.

Fish Meal--Smaller Supplies and Higher Prices

The U.S. supply (production and imports) of fish meal in 1969/70 is dipping again after advancing to a peak of almost 1.1 million tons in 1967/68. The supply available for feeding in 1969/70 is estimated at 575,000 tons, considerably under the 835,000 for 1968/69. A principal reason for the drop is the reduction in imports--especially from Peru. This was largely due to a second year of small production and a strong demand from other countries for Peruvian fish meal.

Despite a number of "Vedas" called by the Peruvian Government, when the fishing season was closed, fish meal production in that country during October-September 1969/70 totaled approximately 2,150,000 tons, 14% above a year ago, but 5% below the record output in 1967/68. Production in most other fish meal exporting countries was down or little changed from year-earlier levels. This, along with strong world demand, resulted in smaller supplies available to U.S. buyers.

Fish meal prices have been substantially higher in 1969/70 than in 1968/69, especially last fall and winter. For the entire year, fish meal at New York will average around $190 a ton, or around $40 more than in 1968/69. Meal in mid-August was quoted at $173 a ton, down from over $200 last spring.

Table 15.--Prices of selected processed feeds at principal markets, 1967-70 1/

[Dollars per ton]

MEALS

Year beginning October	Soybean, 44%, Decatur			Cottonseed, 41%, Memphis			Meat meal, 50%, Chicago		
	1967	1968	1969	1967	1968	1969	1967	1968	1969
October	71.80	78.20	75.40	76.10	66.20	63.40	87.00	97.00	93.10
November	71.90	73.50	69.90	76.60	65.60	67.75	82.80	94.40	97.20
December	73.40	71.60	82.90	78.10	67.80	78.00	81.60	91.00	99.00
January	75.10	69.80	87.50	77.90	68.40	88.10	88.70	92.80	121.90
February	74.50	69.90	85.25	77.60	64.60	74.50	84.40	88.80	134.40
March	75.00	72.60	71.80	76.20	62.50	64.40	85.30	80.90	107.10
April	74.60	73.30	74.60	77.00	61.70	64.90	86.70	84.80	115.60
May	75.00	76.10	71.20	77.60	59.10	65.20	90.60	87.50	103.10
June	79.50	77.50	74.70	78.20	59.60	70.20	95.60	92.40	101.00
July	82.80	77.30	82.90	78.20	68.00	78.30	96.50	101.00	105.00
August	84.40	76.90		78.00	71.00		92.80	95.30	
September	85.10	72.70		79.10	67.80		94.10	93.00	
Average	76.90	74.10		77.60	65.20		88.80	91.60	

Year beginning October	Fish meal, 60%, New York			Gluten feed, 21%, Chicago			Wheat middlings, Minneapolis		
	1967	1968	1969	1967	1968	1969	1967	1968	1969
October	124.30	129.20	193.40	46.80	42.80	47.00	44.20	38.10	42.10
November	121.40	129.60	202.40	49.20	46.00	49.50	45.60	44.40	43.25
December	121.00	135.20	203.80	51.00	49.20	51.60	45.90	49.10	46.30
January	120.20	140.20	197.50	53.20	50.00	56.75	44.30	47.80	53.60
February	119.00	141.00	185.50	48.50	48.50	56.00	40.90	42.50	41.25
March	115.70	140.50	196.00	45.70	43.50	44.40	41.40	38.70	36.80
April	115.00	145.00	202.50	43.20	42.00	42.00	38.10	41.90	40.75
May	131.40	161.00	199.40	42.50	40.00	42.00	39.70	32.40	35.25
June	139.20	168.00	190.50	41.70	40.00	42.60	37.90	35.30	36.00
July	142.80	173.90	180.00	38.60	40.00	44.00	33.40	34.30	41.10
August	141.00	172.10		38.00	40.00		32.60	34.10	
September	132.80	171.80		40.00	42.40		34.20	40.40	
Average	127.00	150.60		44.90	43.70		39.80	39.90	

1/ Bulk, except fish meal which are bagged basis.

Domestic production of fish meal (including solubles at dry weight) during October-June, at 165,000 tons, was running about the same as in the corresponding period last year. But imports totaling 221,000 tons were down from the 476,000 in that period of 1968/69.

U.S. fish meal imports may recover some in 1970/71 from the sharp drop in 1969/70. Domestic demand by the broiler industry should continue strong at least through the winter. However, the import level will depend greatly on fish meal prices. High world prices and much uncertainty in supplies were major deterrents to U.S. imports during 1969/70.

HAY

Lower Supplies Seen

The 1970/71 hay supply--estimated at 150 million tons--is about 1 million below last year's supply. This year's crop, forecast at 126 million tons on August 1, is a million less than 1969, but 2.6 million above 1964-68 average. The drop from 1969 is due entirely to lower yield prospects; acreage is up almost a million. Weather in most North Central States during July was less favorable for hay production than in June. Shortage of moisture lowered prospects. The national yield is placed at 2.01 tons compared with 2.06 in 1969.

Roughage-consuming livestock for 1970/71, forecast at 96.4 million units, would total 1.3 million more than in the current season. The prospective increase would come largely from beef-type cattle, coupled with a continued slowdown in the rate of decline for dairy animals. The hay supply per animal unit for 1970/71 would be 1.56 tons, a little below the level of the past two seasons.

Crop Down in North Central and Atlantic Regions

Hay production in the North Atlantic, South Central and Western Regions is expected to show some increase over 1969. But crops are smaller in the North Central and South Atlantic Regions. The North Central hay crop forecast of 40.7 million tons is 1.8 million below a year earlier. Production in the South Atlantic Region of 5.3 million tons is down 0.2 million from 1969 and smallest since 1966. Production in each of the Western and South Central Regions is up about 0.4 million tons from 1969.

Prices Little Changed

Hay prices in mid-July averaged $22 a ton, practically the same as a year ago. Prices varied from about a dollar a ton lower in the West North Central Region to about $2 higher in the Mid-Atlantic and West South Central Regions. In other regions, prices varied less than a dollar a ton from year-earlier levels.

With slightly smaller supplies and prospects for continued strong demand due to more hay-consuming livestock, prices likely will hold firm during the remainder of the 1970/71 hay season. In addition, pasture feed conditions dropped 10 percentage points on July 1 to August 1, averaging 2 points under a year ago since April.

* * *

The 1970 issues of the Feed Situation are scheduled to be available February 6, April 13, May 28, August 28 and November 30.

Summaries of these issues are scheduled for release after 3:00 p.m. by the Press Service, Office of Information, USDA on January 29, April 6, May 21, August 21 and November 20.

* * *

Table 16.--Hay: Supply and disappearance, United States, 1962-70

Year beginning May	Acreage harvested	Yield per harvested acre	Production	Farm carryover May 1	Total supply	Disappearance
	1,000 acres	Tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons
1962	67,563	1.80	121,759	18,021	139,780	116,666
1963	66,428	1.77	117,537	23,114	140,651	120,842
1964	67,375	1.76	118,778	19,809	138,587	122,020
1965	67,684	1.85	125,536	16,567	142,103	119,406
1966	65,140	1.86	121,027	22,697	143,724	121,792
1967	64,667	1.95	126,300	21,932	148,232	123,074
1968	62,693	2.00	125,522	25,158	150,680	126,807
1969 1/	61,838	2.06	127,127	23,873	151,000	126,789
1970 2/	62,728	2.01	126,005	24,211	150,216	

1/ Preliminary. 2/ August 1 indications.

Table 17.--Roughage-consuming animal units, hay supply and disappearance per animal unit, United States, 1920-70

REVISED SERIES

Year beginning 1/	Roughage-consuming animal units	Hay		Year beginning 1/	Roughage-consuming animal units	Hay	
		Supply per unit	Disappearance per unit			Supply per unit	Disappearance per unit
	Mil.	Tons	Tons		Mil.	Tons	Tons
1920	86.9	1.16	.97	1946	87.7	1.37	1.19
1921	86.1	1.17	1.06	1947	83.7	1.39	1.21
1922	84.8	1.23	1.10	1948	81.8	1.36	1.18
1923	83.2	1.21	1.08	1949	82.5	1.35	1.18
1924	86.3	1.18	1.04	1950	85.4	1.39	1.21
1925	84.0	1.09	.98	1951	88.8	1.40	1.23
1926	82.3	1.04	.93	1952	91.4	1.33	1.17
1927	81.8	1.30	1.13	1953	92.0	1.34	1.17
1928	82.8	1.18	1.08	1954	92.6	1.33	1.17
1929	82.6	1.16	1.05	1955	91.8	1.40	1.22
1930	84.1	1.00	.91	1956	88.5	1.41	1.21
1931	86.5	.96	.86	1957	87.0	1.58	1.28
1932	89.6	1.03	.91	1958	88.7	1.65	1.36
1933	92.3	.93	.85	1959	90.1	1.52	1.33
1934	85.9	.79	.74	1960	90.5	1.49	1.24
1935	84.3	1.13	.97	1961	92.0	1.52	1.33
1936	83.0	1.01	.94	1962	94.2	1.48	1.24
1937	81.5	1.09	.94	1963	96.0	1.47	1.26
1938	82.9	1.26	1.06	1964	95.7	1.45	1.28
1939	85.1	1.21	1.07	1965	94.7	1.50	1.26
1940	87.1	1.24	1.07	1966	94.4	1.52	1.29
1941	91.3	1.21	1.06	1967	94.4	1.57	1.30
1942	96.4	1.26	1.09	1968	93.9	1.60	1.35
1943	98.8	1.21	1.07	1969	95.1	1.59	1.33
1944	95.4	1.22	1.06	1970 2/	96.4	1.56	
1945	91.3	1.35	1.13				

1/ May for hay; October for animal units.
2/ Preliminary; based on August 1 indications.

Table 18.--Hay: Acreage, yield and production, by kinds, United States, average 1964-68, annual 1966-70

Item	Unit	Average 1964-68	1966	1967	1968	1969 1/	1970 2/
All hay							
Acreage harvested	1,000 acres	65,512	65,140	64,667	62,693	61,838	62,728
Yield per acre	Tons	1.88	1.86	1.95	2.00	2.06	2.01
Production	1,000 tons	123,433	121,027	126,300	125,522	127,127	126,005
Alfalfa							
Acreage harvested	1,000 acres	28,672	29,002	28,162	27,078	26,671	26,902
Yield per acre	Tons	2.56	2.51	2.63	2.71	2.81	2.75
Production	1,000 tons	73,264	72,712	74,204	73,251	74,882	73,820
Clover and timothy							
Acreage harvested	1,000 acres	13,242	13,139	13,234	13,351	13,314	13,445
Yield per acre	Tons	1.62	1.60	1.71	1.77	1.79	1.77
Production	1,000 tons	21,466	21,068	22,684	23,679	23,835	23,840
All other hay 3/							
Acreage harvested	1,000 acres	23,598	22,999	23,271	22,264	21,853	22,381
Production	1,000 tons	28,703	27,247	29,412	28,592	28,410	28,345

1/ Preliminary. 2/ Acreage based on July 1 indications; yields and production, August 1 indications. 3/ Includes hay cut from lespedeza, soybeans, peanuts, cowpeas, grains, other miscellaneous tame hay and wild hay.

Table 19.--Hay: Production by regions, average 1964-68, annual 1964-70

Year	North Atlantic	East North Central	West North Central	South Atlantic	South Central	Western	United States
	1,000 tons						
Average 1964-68	11,728	22,684	40,974	5,162	14,976	27,909	123,433
1964	11,063	22,613	39,104	5,021	13,724	27,253	118,778
1965	11,000	22,437	43,471	5,170	15,050	28,408	125,536
1966	11,973	22,791	40,531	4,699	14,343	26,690	121,027
1967	12,569	22,237	41,347	5,361	15,606	29,180	126,300
1968	12,032	23,344	40,415	5,557	16,158	28,016	125,522
1969 1/	12,031	22,630	42,430	5,586	14,948	29,502	127,127
1970 2/	12,184	22,479	40,698	5,332	15,368	29,944	126,005

1/ Preliminary. 2/ August 1 indications.

Table 20.--Hay: Average prices received by farmers, by regions, July 1970 with comparisons

Region	Hay per ton				
	July			1970 as a percentage of-	
	Average 1964-68	1969	1970	Average 1964-68	1969
	Dol. per ton			Pct.	
New England	30.80	27.40	---	---	---
Middle Atlantic	26.30	25.00	27.30	104	109
East North Central	21.10	19.80	20.00	95	101
West North Central	18.20	19.20	18.20	100	95
South Atlantic	31.50	31.50	31.70	101	101
East South Central	25.00	26.50	26.60	106	100
West South Central	21.60	21.80	24.00	111	110
Mountain	22.20	23.40	22.90	103	98
Pacific	24.20	25.90	26.90	111	104
United States (av.)	21.90	22.20	22.10	101	100

FEED GRAINS IN THE SEVENTIES

by Malcolm Clough

ABSTRACT: Growth in population and rising per capita income during the seventies will set the stage for rising livestock production and expansion in feed grain requirements. Combined domestic use and exports of feed grains are expected to increase more than a third during the next 10 years, requiring a comparable increase in production. Increasing efficiency in feed grain production is expected to keep feed prices relatively low, favoring liberal feeding per animal as well as expanding livestock production.

KEY WORDS: Feed grain projections, feed requirements, domestic use, exports, livestock-feed price ratio and livestock production.

Economic Setting

The general economy will play an important role in determining the course of feed grains during the next 10 years. Projections of feed grain supplies and requirements are based on the assumption that most of the major trends of the past two decades will continue during the 1970's. Population is expected to continue upward at a little slower pace than during the 1960's, probably reaching 235 million by 1980. And per capita income will rise to about 75% above the current level. Increasing population and per capita income will create an expanding demand for meat, especially beef and poultry. Thus, the growth in the demand for livestock products will mean further expansion in total feed requirements, with much of the increase coming from feed grains and other concentrates.

The feed grain projections imply the presence of some form of government program to keep production and utilization in balance. No attempt is made here to project specific provisions of such a program, but land not needed for crop production is assumed to be diverted to other uses in the 1970's as it was during the 1960's.

The projected feed grain production is assumed to be in balance with domestic use and export. While the carryover stocks may vary from year to year, it seems reasonable to assume that acreage and production adjustments will be made to keep carryover at a reasonable level--within a range of 35 to 45 million tons.

The projections carried in this article do not allow for any long-term effects on the corn leaf blight, which has spread from the South to the main corn producing areas this summer. Damage to the 1970 crop or its longer term influence cannot be accurately appraised at this time. It is assumed that whatever influence the blight may have on yield and production will come largely in the next few years and adjustments can be made through development of blight resistant seed that will minimize its influence over the longer period.

Trends of the 1950's and 1960's

Before going into the projections of the next 10 years, it might be well to review briefly some of the trends of the past two decades.

The most consistent of these has been the upward trend in yield. Since the mid-1950's, the combined yield of the four feed grains has gone up a little over 5% annually. Corn yields rose slightly over

5% annually, grain sorghums about 7-1/2%, while yield increases were less pronounced for oats and barley.

Total use of feed grains also increased during this 15-year period--but at a slower pace--averaging only 3.4% annually. The faster pace for yield than utilization led to the diversion of 14% to 25% of our feed grain acreage to soil-conserving uses during the 1960's to keep production in balance with requirements.

Trends in the feed situation from 1955 to 1969

Item	Average annual rate of increase 1/
	Percent
Feed grains	
Yield per acre	5.4
Production	3.2
Total use	3.4
Livestock production units	1.9
Feed concentrates fed	3.0
Fed per livestock production unit	1.1
High-protein feeds fed	3.6
Fed per animal unit	2.1
Livestock-feed price ratio 2/	2.6

1/ Average percentage change from preceding year.

2/ Based on prices received for livestock and livestock products and a combination of feed grain and high protein feed prices. Rate of increase based on 1956 to 1968 to avoid extreme years.

Livestock production has been expanding during the past two decades to meet the increasing demand for meat and other livestock products. When combined on the basis of feed requirements, livestock production has gone up at an average rate of about 2% annually. Increasing production of livestock products per animal and relatively low feed prices have both contributed to heavier feeding of grain and other concentrates per animal and also per unit of livestock production. During the past 15 years, feeding of all concentrates per livestock production unit has gone up about 1% annually. The increase in livestock production, together with the increasing feeding rate, has given a 3% annual average increase in total concentrates fed.

Increasing efficiency in the production of feed grains during the past 20 years has tended to bring relatively lower feed prices. Prices of livestock and livestock products, on the other hand, have trended upward. While the rate of increase in livestock prices relative to feed prices has been far from uniform, it has averaged nearly 3% annually since the mid-1950's.

Feed Grain Use--Upward Trend to Continue

The upward trend in total use of feed grains of the past two decades is expected to continue through the 1970's. The major factors contributing to the prospective rise are: (1) continued expansion in livestock production and (2) prospects for favorable livestock-feed price ratios which will encourage liberal feeding per animal. The projected increase in livestock production is based on the prospective growth in demand due to increasing population and rising per capita incomes.

Domestic use and exports of feed grains in 1980 are projected to total 240 million tons, reflecting about the same rate of increase as has occurred since the mid-1950's. Domestic consumption is projected at 205 million tons, and exports at about 35 million.

Domestic consumption includes use for food, industry and seed, which in 1965-69 accounted for about 9% of total feed grain use, and for livestock feed which was about 78% of total. Exports accounted for the remaining 13%.

During the next 10 years, the quantity of feed grains used for food and industry probably will about equal the rate of increase in our population. The

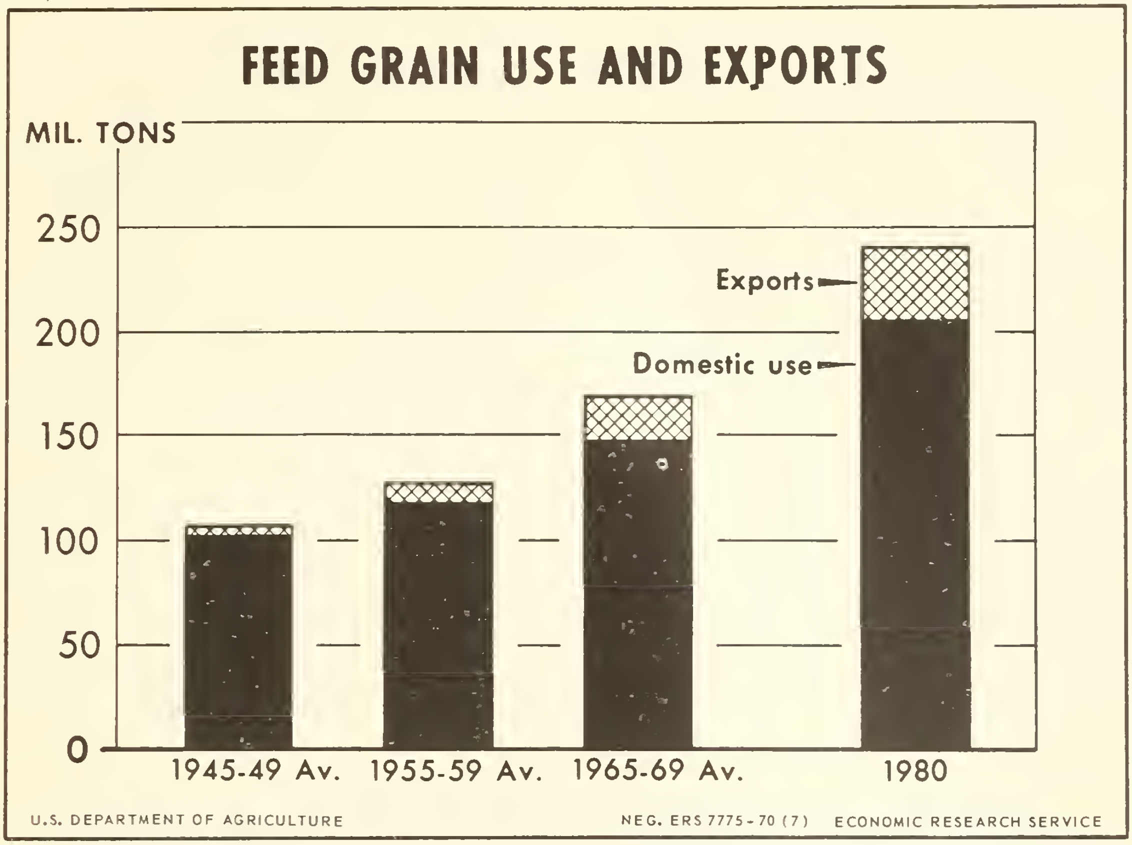
Table 21.--Feed: Production, use and price relationships

Item	Unit	Averages 1945-1949	1950-1954	1955-1959	1960 1964	1965-1969 1/	Projected 1980
Feed grains							
Acreage							
Planted	Mil. acres	156.3	153.2	157.4	129.5	117.3	120
Harvested	" "	133.9	127.4	128.6	107.4	97.4	99
Yield per harvested acre	Ton	.82	.87	1.04	1.35	1.71	2.42
Production	Mil. tons	109.3	110.3	133.2	145.0	166.8	240
Carryover	" "	15.6	27.6	51.5	73.1	46.5	35-45
Utilization							
Domestic use	" "	102.9	104.8	116.6	132.0	146.1	205
Exports	" "	3.8	5.2	10.2	17.4	22.2	35
Total	" "	106.7	110.0	126.8	149.4	168.3	240
Feed concentrates fed							
Feed grains	Mil. tons	90.2	92.8	103.3	117.6	130.6	186
High-protein feeds	" "	10.8	13.3	15.2	17.6	19.5	26
Other feeds 2/	" "	13.5	14.6	12.6	13.9	17.0	18
Total	" "	114.5	120.7	131.1	149.1	167.1	230
Livestock feed relationships							
Livestock production	Mil. units	87.5	93.6	99.8	109.5	121.0	161
Feed concentrates fed per unit	Ton	1.31	1.29	1.31	1.36	1.38	1.43
Livestock-feed price ratio 3/	1957-59=100	80	82	94	93	107	125

1/ Preliminary.

2/ Wheat, rye and lower-protein byproduct feeds.

3/ Price received by farmers for livestock and livestock products divided by feed prices (feed grains X.8; wholesale prices of high-protein feeds X.2.).



use of livestock feed, however, is expected to expand somewhat faster than population, due to rising per capita consumption of livestock and livestock products and some increase in the quantity of feed fed per livestock production unit. The increase in the feeding rate, however, is expected to be at a slower pace than during the past 15 years.

Exports Also to Expand

Because of changes in patterns of production, consumption and trade policies of foreign countries, there is probably more uncertainty in the future course of exports than in most of the other variables considered in the 10-year projections.

The export projections assume that the total world demand for feed grains will show considerable expansion during the 1970's. Japan and Western Europe will remain the major import markets. But developing countries in Asia and Africa, as well as Central America will become more important importers of feed grains. Exports are projected to expand as they did from 1955 to 1964, but at a slower pace; at an average rate of about 1 million tons per year from the 1965-69 base. This would bring total exports up to around 35 million tons by 1980.

The projections for the 1970's assume livestock production in foreign countries will continue to expand to meet the growing demand. It is also assumed that our prices will be such as to keep us competitive with other exporting countries and that we will share in the growing world demand for feed grains.

During 1955-64 exports increased at an average rate of about 1-1/2 million tons annually. The uptrend ended in 1965-66 with a record export of about 29 million tons. In that year, grain production was short in Europe, especially Eastern Europe. Crops in other major exporting countries were comparatively small. Both Europe and Japan relied heavily on the United States for their feed grain needs.

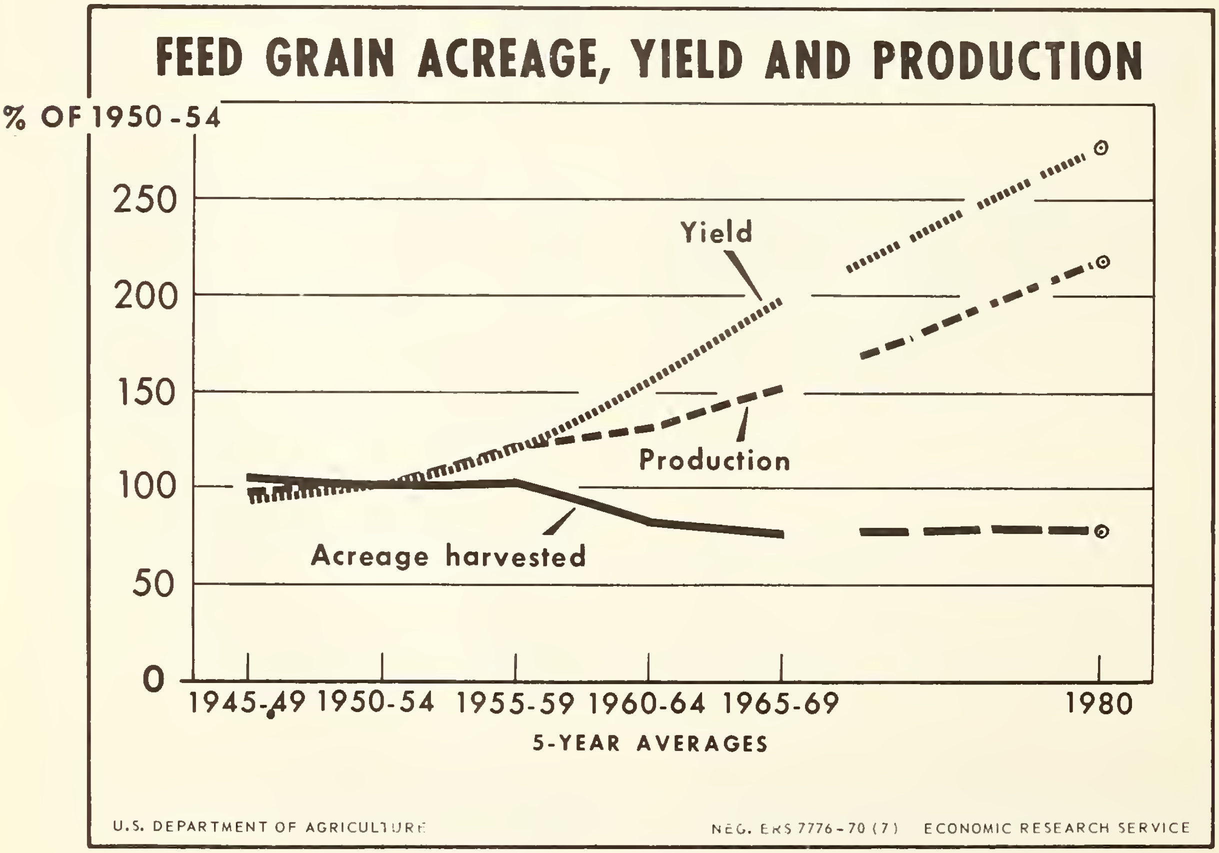
Since 1965-66 the export picture has changed rather sharply, with U.S. exports dropping to only around 18 to 23 million tons in the past 4 years. Much of the decrease has been due to increased production in Europe and the substitution of wheat and other feedstuffs for feed grains in EEC.

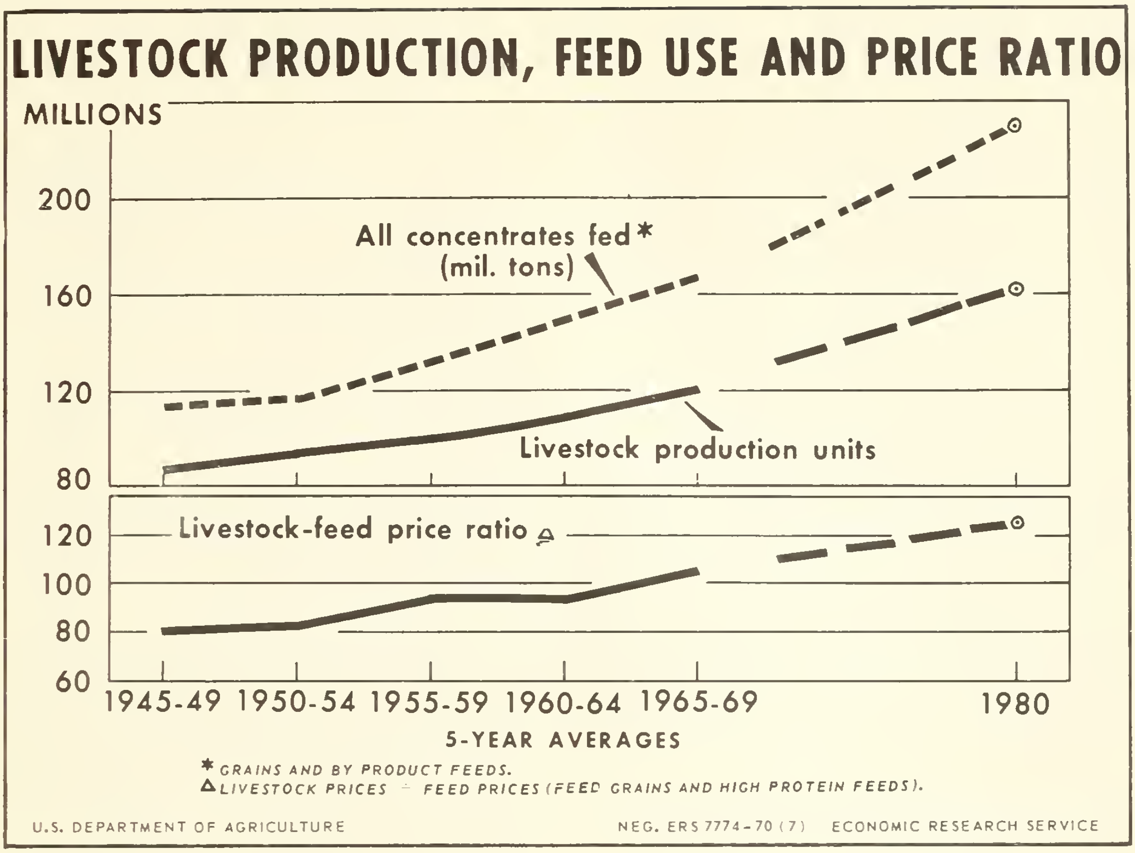
Increasing Production to Come Largely Through Higher Yields

The upward trend in yield that has been underway since the mid-1930's is expected to continue in the 1970's. Feed grain yield per acre rose moderately from the 1930's to the mid-1950's when the increase became more pronounced, due largely to heavier application of fertilizer and closer planting of corn. The average yield per acre for the 4 feed grains rose from .87 ton in 1950-54 to 1.71 tons in 1965-69. This was an average rate of about 5% annually or .056 ton per acre (a little over 100 pounds).

The yield projection for 1980 assumes an increase of about the same tonnage per year as during the past 15 years. Yield per acre is projected at about 2.4 tons in 1980 compared with 1.7 tons for 1965-69. This assumes generally normal growing seasons during the 1970's.

In the past 15 years, yield per acre has been rising more rapidly than total utilization, which brought about the diversion of 20 to 39 million acres from feed grain production during 1961-69. In the past 5 years, 95-101 million acres of feed grains have been harvested--adequate for total requirements without materially




LIVESTOCK PRODUCTION, FEED USE AND PRICE RATIO

* GRAINS AND BY PRODUCT FEEDS.
Δ LIVESTOCK PRICES ÷ FEED PRICES (FEED GRAINS AND HIGH PROTEIN FEEDS).

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changing carryover stocks. This was nearly a fourth less than the acreage harvested in 1950-54 when production also was in fairly close balance with requirements. The increase in yield per acre, as projected here, would meet our projected requirements in 1980 with about the same acreage as has been planted in recent years.

Increased Livestock Production To Expand Total Feed Needs

Projections of feed requirements during the 1970's are based largely on prospects for continued expansion in livestock production. Greatest increases are in prospect for beef and poultry. Fed cattle, broilers and turkeys are all projected to have around 50% larger output in 1980 than in 1967-69. Hog production is expected to increase by about 15%, or about the same as population with little change in prospect in per capita pork consumption. Only a small increase is expected in overall egg production, while milk production may drop by 8 or 10% during the next 10 years.

With livestock and livestock product projections combined into livestock production units, the total output would rise to 161 million units in 1980 compared with 121 million in 1965-69. This would be an annual increase of about 2.2%, slightly above the growth rate for the past 2 decades.

With increasing efficiency in livestock production, it is assumed that the rate of increase in feed fed per livestock production unit will be a little less during the 1970's than the average rise of 1% annually during the past 2 decades. Total feeding of grain and other concentrates would increase at an average rate of about 3% annually.

Feed Prices to Favor Liberal Feeding During the 1970's

Increasing efficiency in feed grain production has been important in keeping feed prices low in relation to prices of livestock and livestock products. The index of prices of livestock and livestock products rose from 109 (1957-59=100) in 1950-54 to 118 in 1965-69. Feed grain prices, on the other hand, dropped sharply during the 1950's and have made only a partial recovery during the 1960's. The index of feed prices declined from 133 (1957-59=100) in 1950-54 to only 110 in 1965-69. Because of these counter trends, livestock prices in the late 1960's were around 30% higher in relation to feed prices than in the early 1950's.

The general level of livestock prices is expected to reflect a continuation of the upward trend in demand over the next 10 years. Livestock-feed price ratios will likely become even more favorable during the 1970's than they were in the late 1960's. This will encourage liberal feeding and further increases in the feeding rate per unit of livestock production.

Corn to Keep Pace With Increasing Demand

Corn is expected to at least hold its place in the expanding demand and production of feed grains during the next 10 years. In 1965-69, corn accounted for about 58% of the harvested acreage of feed grains and about 75% of the total feed grain production. To meet the expanding demand, corn production is projected at 6.4 billion bushels in 1980, nearly 2 billion above the 1965-69 average. Practically all of this increase will come from the projected increase in yield; expected to rise to over 100 bushels per acre in the late 1970's. The projected corn acreage is slightly above the 1965-69 average, but still 10-15% below the 1955-59 level.

Corn production will be influenced to some extent by the progress in development and adoption of high lysine corn. If high lysine corn should make substantial gains during the next 10 years, corn may improve its relative position as a feed and food grain. High lysine corn could also provide some of the protein now coming from soybean meal and other protein feeds used in livestock rations.

Table 22.--Feed grain acreage and production

Item	Acreage harvested 1955-59 average	Acreage harvested 1965-69 average	1980 % of 1965-69 average	Production 1955-59 average	Production 1965-69 average	1980 % of 1965-69 average
	Million acres	Million acres	Percent	Million bushels	Million bushels	Percent
Corn	66.4	56.7	103	3,235	4,386	146
Grain sorghum	14.7	13.7	115	430	725	160
Oats	33.1	17.6	80	1,278	881	100
Barley	14.4	9.5	115	424	400	150
				Million tons	Million tons	
Total	128.6	97.5	102	133.2	166.8	144

Sorghums to Make Further Gains; Water Availability Becoming Important

On the basis of developments in recent years it seems likely that grain sorghums will make further gains during the next few years. Expansion in cattle feeding in the sorghum area in recent years has materially increased domestic use. Further expansion is expected during the 1970's, although probably at a slower pace. Grain sorghums fed to livestock increased from 412 million bushels in 1964/65 to nearly 700 million in 1969/70.

Much of this increase in feeding occurred in the major sorghum area--Texas, Kansas, Nebraska, Oklahoma, New Mexico, and Colorado. Prospects for declining availability of water for irrigation may become increasingly important in these States in the late 1970's and 1980's. In recent years, a fourth of the sorghum acreage in these States was irrigated. Irrigated acreage accounts for about 40% of the production.

This region has enjoyed a large local supply of feeder cattle and close proximity to feeder cattle of Southeastern States. Increasing sorghum grain production will be needed in this area to keep it competitive with other areas during the 1970's. Combined U.S. domestic use and exports are projected at around 1.1 billion bushels by 1980, or about 60% higher than the 1965-69 average. Declining availability of underground water for irrigation, could limit production expansion in areas of the Southwest to meet this requirement. It could also increase the acreage required because of lower yields on non-irrigated land.

Oats to Resume Downward Trend

Oat acreage is expected to resume its downward trend during the 1970's. With rising yield per acre, production may be maintained at close to the 1965-69 level of around 880 million bushels. The acreage of oats harvested for grain dropped from 40 million acres in the mid-1950's to only 16 million in 1967. From 1967 to 1969, the acreage harvested for grain increased 2 million acres and production went up 20%. With the lower demand for oats, production has materially exceeded total use in the past two years pushing carryover on July 1, 1970 to a record 489 million bushels.

During the 1970's, oat production is expected to return to a better balance with requirements. Acreage harvested for grain is projected at about 20% below the 1965-69 average of 17.6 million acres. It is assumed this would be largely offset by rising yield per acre, giving a projected production near the past 5-year average. In this event, oat production in 1980 would be only around 6% of the total feed grain output, compared with 8% in 1965-69 and 15% in 1955-59.

Barley Acreage May Increase From Current Low Level

Farmers harvested only 9-1/2 million acres of barley for grain during 1965-69, down a third from 10 years earlier. The small barley acreage in recent years has been due in part to the feed grain program as well as to expanded wheat acreage in 1967 and 1968.

It is assumed that with increasing demand for feed and malt, barley will regain some of the acreage drop of the last 10 years during the 1970's. But it probably will remain much below the 14.4 million acres harvested for grain in 1955-59. An increase of about 1-1/2 million acres is projected for 1980. With the projected rise in yield (about 1 bushel per acre annually), this would bring 1980 production to around 50% above the 1965-69 average.

* * * * * * * *

Table 23.--Feed grains: Domestic disappearance and exports, by quarters, United States, 1963-70

Year beginning October	October-December		January-March		April-June		July-September		Total October-September	
	Domestic disappearance	Exports 1/	Domestic disappearance	Exports 1/	Domestic disappearance	Exports 1/	Domestic disappearance	Exports 1/	Domestic disappearance	Exports 1/
	Million bushels									
	CORN									
Average 1964-68	1,088	166	962	129	853	140	768	148	3,671	583
1963	889	151	946	120	792	110	721	119	3,348	500
1964	994	152	951	119	761	151	599	148	3,305	570
1965	994	197	1,007	171	903	177	801	142	3,705	687
1966	1,141	140	837	126	865	107	805	114	3,648	487
1967	1,143	183	895	158	899	129	852	163	3,789	633
1968 2/	1,165	158	1,121	71	839	134	782	173	3,907	536
1969 2/	1,192	186	1,185	140	934	133				
	GRAIN SORGHUM									
Average 1964-68	210	47	184	46	120	40	46	54	560	187
1963	184	33	156	27	106	19	38	28	484	107
1964	161	26	156	27	74	37	34	58	425	148
1965	211	50	181	73	129	62	61	81	582	266
1966	210	75	230	65	132	59	42	49	614	248
1967	212	55	168	48	128	21	37	42	545	166
1968 2/	256	28	186	16	137	20	56	42	635	106
1969 2/	310	29	153	33	143	15				
	OATS									
Average 1964-68	149	5	224	2	182	4	279	5	834	16
1963	168	1	281	3/	173	1	314	2	936	4
1964	156	2	233	3/	184	1	276	10	849	13
1965	144	13	226	2	207	13	275	9	852	37
1966	166	7	220	1	170	3	272	5	828	16
1967	129	1	207	2	171	2	272	3	779	8
1968 2/	151	2	232	1	176	2	302	2	861	7
1969 2/	138	1	210	1	183	1				
	BARLEY									
Average 1964-68	79	13	87	7	77	13	102	10	345	43
1963	83	19	83	15	75	26	114	11	355	71
1964	79	22	96	6	81	21	89	17	345	66
1965	68	22	93	15	67	23	95	15	323	75
1966	88	10	81	7	75	13	102	13	346	43
1967	75	7	76	9	81	2	105	3	337	21
1968 2/	83	4	88	1	81	5	121	1	373	11
1969 2/	81	1	94	3/	84	15				
	TOTAL (Million tons) 4 GRAINS									
Average 1964-68	40.6	6.4	37.8	5.0	32.0	5.4	29.7	6.0	140.1	22.8
1963	34.7	5.7	37.3	4.5	29.7	4.3	29.0	4.3	130.7	18.8
1964	36.7	5.6	37.0	4.2	28.3	5.8	24.3	6.3	126.3	21.9
1965	37.7	7.7	39.1	7.2	33.8	7.5	30.8	6.7	141.4	29.1
1966	42.6	6.4	35.3	5.5	32.4	5.0	30.5	5.0	140.8	21.9
1967	41.8	6.8	34.9	6.0	33.4	4.3	31.8	5.9	141.9	23.0
1968 2/	44.2	5.3	42.4	2.5	32.1	4.4	31.2	6.2	149.9	18.4
1969 2/	46.2	6.1	43.1	4.9	35.1	4.5				

1/ Includes grain equivalent of products. 2/ Preliminary. 3/ Less than 500,000 bushels.

Table 24.--Feed grains: Acreage, yield and production, United States, average 1964-68, annual 1966-70

Feed grain	Unit	Average 1964-68	1966	1967	1968	1969 1/	1970 2/
Corn							
Planted 3/	1,000 acres	66,693	66,306	71,093	65,126	64,257	67,352
Harvested 4/	1,000 acres	56,814	56,933	60,557	55,880	54,573	57,991
Yield 5/	Bu.	73.4	72.3	78.6	78.6	83.9	80.9
Production	1,000 bu.	4,167,860	4,117,355	4,760,076	4,393,273	4,577,864	4,692,864
Sorghum grain							
Planted 3/	1,000 acres	17,448	16,372	19,007	18,014	17,438	17,517
Harvested 4/	1,000 acres	13,316	12,813	14,999	13,995	13,463	6/13,600
Yield 5/	Bu.	50.7	55.8	50.4	52.9	55.2	6/ 50.0
Production	1,000 bu.	674,623	714,992	755,936	739,695	743,124	679,903
Oats							
Planted	1,000 acres	23,351	23,301	20,646	23,166	23,636	24,465
Harvested 4/	1,000 acres	17,930	17,861	16,017	17,533	18,003	18,732
Yield 5/	Bu.	48.1	44.9	49.3	53.6	52.8	44.9
Production	1,000 bu.	861,772	801,327	789,196	939,228	949,874	902,800
Barley							
Planted	1,000 acres	10,673	11,134	10,002	10,477	10,158	10,652
Harvested 4/	1,000 acres	9,702	10,205	9,177	9,709	9,388	9,846
Yield 5/	Bu.	40.6	38.5	40.6	43.6	44.4	41.7
Production	1,000 bu.	393,476	393,186	372,898	422,959	417,156	410,456
Four feed grains							
Planted	Mil. acres	118.2	117.1	120.7	116.8	115.5	120.0
Harvested 4/	Mil. acres	97.8	97.8	100.8	97.1	95.4	100.2
Yield 5/	Tons	1.62	1.61	1.75	1.74	1.83	1.74
Production	Mil. tons	158.8	157.6	176.0	168.9	174.2	174.7

1/ Preliminary. 2/ Acreage based on July 1 indications; yield and production, August 1 indications. 3/ All purposes. 4/ Harvested for grain. 5/ Yield per harvested acre. 6/ Unofficial estimate; based on estimates of production and acreage harvested for all purposes.

Table 25.--Corn, oats and barley: Production by regions, average 1964-68, annual 1966-70

Year	North Atlantic	East North Central	West North Central	South Atlantic	South Central	Western	United States
	1,000 bu.						
	CORN FOR GRAIN						
Average 1964-68	75,505	1,756,538	1,845,762	257,806	193,067	39,182	4,167,860
1966	50,078	1,721,245	1,934,655	198,486	171,761	41,130	4,117,355
1967	108,636	1,997,299	2,049,053	336,000	222,257	46,831	4,760,076
1968	77,171	1,806,576	2,041,604	246,110	174,021	47,791	4,393,273
1969 1/	99,654	1,869,146	2,131,985	258,152	166,150	52,777	4,577,864
1970 2/	106,018	1,942,091	2,150,566	257,072	174,575	62,542	4,629,864
	OATS						
Average 1964-68	50,038	239,364	484,780	19,837	35,525	32,228	861,772
1966	43,310	231,524	438,437	19,833	37,789	30,434	801,327
1967	44,722	213,063	464,385	18,666	22,795	25,565	789,196
1968	53,967	256,651	543,766	18,937	36,178	29,729	939,228
1969 1/	45,288	224,997	570,616	20,569	43,944	44,460	949,874
1970 2/	47,084	212,331	524,891	18,991	49,072	50,431	902,800
	BARLEY						
Average 1964-68	10,209	5,098	141,224	14,899	14,101	207,945	393,476
1966	10,911	4,418	127,232	14,979	15,499	220,147	393,186
1967	11,496	4,978	139,483	15,857	7,296	193,788	372,898
1968	11,699	6,907	177,664	15,284	15,130	196,275	422,959
1969 1/	11,465	4,988	140,787	16,032	20,784	223,100	417,156
1970 2/	10,820	5,192	105,390	16,503	26,443	246,108	410,456

1/ Preliminary. 2/ August 1 indications.

Table 26.--Corn: Acreage planted by regions, average 1964-68, annual 1961-70

Year	North Atlantic	East North Central	West North Central	South Atlantic	South Central	Western	United States
				1,000 acres			
Average 1964-68	2,209	23,282	29,785	5,640	4,640	1,137	66,693
1961	1,988	19,759	30,561	6,051	6,550	1,010	65,919
1962	2,041	20,263	30,023	5,630	6,040	1,020	65,017
1963	2,125	21,399	32,607	5,913	5,743	984	68,771
1964	2,126	22,145	29,649	5,655	5,246	1,002	65,823
1965	2,195	22,837	28,829	5,504	4,701	1,053	65,119
1966	2,199	23,731	29,036	5,593	4,592	1,155	66,306
1967	2,277	24,800	32,352	5,861	4,549	1,254	71,093
1968	2,247	22,900	29,058	5,585	4,114	1,222	65,126
1969 1/	2,334	22,372	28,651	5,496	4,087	1,317	64,257
1970 2/	2,454	23,579	30,187	5,722	3,955	1,455	67,352

1/ Preliminary. 2/ Based on July 1 indications.

Table 27.--Sorghum: Acreage planted in leading States, average 1964-68, annual 1961-70

Year	Texas	Oklahoma	Kansas	Nebraska	New Mexico	Arizona	California	Other States	United States
					1,000 acres				
Average 1964-68	6,811	1,012	4,193	2,407	344	207	378	2,096	17,448
1961	5,864	934	3,734	1,422	264	151	222	1,703	14,294
1962	5,981	1,046	3,958	1,820	269	133	238	1,615	15,060
1963	6,579	1,234	5,066	2,148	328	140	276	1,745	17,516
1964	6,250	1,061	4,306	2,341	285	147	306	2,074	16,770
1965	6,125	987	4,048	2,692	294	187	343	2,403	17,079
1966	6,370	938	3,805	2,423	326	208	410	1,892	16,372
1967	7,771	1,097	4,338	2,544	424	254	451	2,128	19,007
1968	7,538	976	4,468	2,035	390	239	383	1,985	18,014
1969 1/	7,538	986	4,066	1,852	398	208	448	1,942	17,438
1970 2/	7,236	897	4,391	1,778	414	179	421	2,201	17,517

1/ Preliminary. 2/ Based on July 1 indications.

Table 28.--Sorghum grain: Production in leading States, average 1964-68, annual 1961-70

Year	Texas	Oklahoma	Kansas	Nebraska	New Mexico	Arizona	California	Other States	United States
					1,000 bushels				
Average 1964-68	301,133	21,624	138,053	116,007	14,593	14,985	24,713	43,515	674,623
1961	229,635	16,866	111,680	59,842	8,514	8,165	13,800	31,706	480,208
1962	201,006	19,740	128,760	101,640	8,730	6,370	14,070	29,968	510,284
1963	242,660	21,535	147,771	102,465	12,152	7,488	16,974	34,349	585,394
1964	215,648	14,050	98,508	90,850	9,200	9,286	19,600	32,654	489,796
1965	294,056	21,830	139,426	121,498	12,488	12,450	23,700	47,250	672,698
1966	311,696	20,280	139,601	142,052	15,939	15,015	27,504	42,905	714,992
1967	343,485	25,802	149,408	123,904	19,154	19,926	27,560	46,697	755,936
1968	340,780	26,158	163,325	101,732	16,182	18,249	25,200	48,069	739,695
1969 1/	309,800	25,474	182,896	114,608	16,856	15,522	29,049	48,919	743,124
1970 2/	331,674	19,960	143,704	72,400	18,290	12,844	27,324	53,707	679,903

1/ Preliminary. 2/ Based on August 1 indications.

Table 29.--Livestock, poultry and milk-feed price ratios, 1965 to date

[U.S. Basis]

Year beginning October	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Average
							HOG-CORN 1/						
Average 2/: 1965-69	19.0	19.1	19.1	17.0	17.4	16.8	16.2	17.3	18.5	19.2	19.6	18.7	18.2
1965	20.8	22.6	23.8	22.9	22.7	20.5	18.6	18.4	19.3	18.3	18.3	16.5	20.2
1966	16.4	15.3	14.7	14.8	15.0	14.0	13.5	17.2	16.7	17.8	18.4	17.1	15.9
1967	17.3	17.6	16.2	16.9	17.8	17.5	17.5	16.8	18.1	20.0	19.5	19.3	17.9
1968	18.6	16.8	17.0	17.3	18.0	18.3	17.6	18.7	20.3	21.1	21.9	21.7	18.9
1969 3/	22.1	23.4	23.6	23.5	24.0	22.7	20.7	19.4	19.2	19.3			
							MILK-FEED 4/						
Average 2/: 1965-69	1.71	1.73	1.70	1.59	1.57	1.54	1.50	1.48	1.46	1.51	1.58	1.66	1.59
1965	1.51	1.55	1.53	1.50	1.50	1.49	1.45	1.42	1.41	1.49	1.56	1.62	1.50
1966	1.66	1.66	1.61	1.57	1.53	1.52	1.46	1.46	1.43	1.48	1.55	1.64	1.55
1967	1.68	1.72	1.69	1.68	1.65	1.62	1.60	1.60	1.58	1.64	1.72	1.79	1.66
1968	1.85	1.86	1.83	1.79	1.75	1.72	1.67	1.63	1.60	1.64	1.69	1.79	1.74
1969 3/	1.85	1.86	1.85	1.80	1.76	1.73	1.72	1.66	1.64	1.66			
							EGG-FEED 5/						
Average 2/: 1965-69	8.9	9.6	10.2	8.7	8.4	8.6	8.1	7.2	7.3	8.0	8.3	9.3	8.6
1965	8.9	9.1	9.9	8.9	9.8	9.9	9.2	7.9	7.8	8.1	9.0	9.6	9.0
1966	9.3	9.5	9.3	8.6	7.5	7.9	6.9	6.7	6.3	7.0	7.0	7.5	7.8
1967	6.8	7.2	7.8	7.9	7.5	7.6	7.2	6.8	7.6	8.2	8.7	10.9	7.8
1968	9.6	9.9	10.7	10.9	9.9	10.1	9.3	7.6	7.8	9.4	8.9	10.0	9.5
1969 3/	10.1	12.3	13.5	13.0	11.4	10.2	8.5	7.3	7.3	8.7			
							BROILER-FEED 6/						
Average 2/: 1965-69	3.0	3.0	2.9	3.2	3.3	3.4	3.3	3.3	3.4	3.5	3.3	3.1	3.2
1965	3.1	3.2	3.2	3.5	3.5	3.9	3.5	3.7	3.6	3.5	3.4	3.1	3.4
1966	2.9	3.0	2.6	2.9	3.2	3.0	3.0	2.8	2.9	3.1	2.8	2.7	2.9
1967	2.7	2.6	2.7	3.0	3.3	3.2	3.2	3.3	3.4	3.5	3.4	3.2	3.1
1968	2.9	3.0	3.1	3.2	3.4	3.4	3.3	3.4	3.5	3.8	3.6	3.4	3.3
1969 3/	3.3	3.2	3.0	3.2	3.0	3.1	2.9	3.0	2.9	2.9			
							TURKEY-FEED 7/						
Average 2/: 1965-69	4.8	4.9	5.1	4.8	4.7	4.8	4.8	4.8	4.8	4.7	4.6	4.7	4.8
1965	4.8	4.9	5.4	5.4	5.4	5.5	5.5	5.1	5.0	4.7	4.6	4.6	5.1
1966	4.9	5.2	5.4	4.8	4.6	4.5	4.2	4.3	4.3	4.5	4.4	4.5	4.6
1967	4.3	4.2	4.2	4.2	4.1	4.2	4.2	4.3	4.5	4.6	4.7	4.8	4.4
1968	4.9	5.0	4.9	4.7	4.6	4.6	4.6	4.7	4.7	4.7	4.7	4.8	4.7
1969 3/	5.0	5.3	5.6	5.3	5.3	5.6	5.4	5.1	5.0	4.8			

1/ Number bushels of corn equal in value to 100 pounds of hog liveweight based on local market prices. 2/ Calendar year averages. 3/ Preliminary. 4/ Pounds concentrate ration equal in value to one pound whole milk. 5/ Number of pounds of laying feed equal in value to one dozen eggs. 6/ Number of pounds of broiler grower equal in value to one pound broiler liveweight. 7/ Number of pounds of turkey grower equal in value to one pound turkey liveweight.

Table 30.--Hog-corn price ratio, Omaha, 1964-70 1/

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Av.
	Hogs (Dol. per 100 lbs.) 2/												
1964	15.42	14.39	15.41	15.93	16.90	16.84	17.46	20.08	23.18	24.27	24.64	22.82	18.95
1965	23.08	24.11	28.05	27.82	27.76	24.28	22.08	22.83	24.57	25.09	25.69	23.09	24.87
1966	21.42	19.61	19.39	19.32	19.28	18.39	17.61	21.59	22.30	22.48	21.03	19.39	20.15
1967	18.07	17.18	17.02	18.13	19.28	18.95	18.94	18.78	20.32	21.33	19.93	19.71	18.97
1968	18.09	17.58	18.48	19.53	20.35	20.54	20.28	22.93	24.98	25.97	26.84	25.89	21.79
1969	25.42	25.69	26.68	27.40	28.25	25.87	23.95	23.35	23.72	24.99			
1970													
	No. 3 Yellow Corn (Dol. per bu.)												
1964	1.179	1.169	1.233	1.274	1.251	1.268	1.290	1.285	1.256	1.253	1.172	1.184	3/1.251
1965	1.155	1.145	1.219	1.280	1.267	1.180	1.245	1.229	1.220	1.348	1.379	1.349	3/1.228
1966	1.344	1.309	1.334	1.307	1.293	1.296	1.274	1.283	1.303	1.270	1.169	1.160	3/1.299
1967	1.119	1.071	1.089	1.123	1.126	1.152	1.151	1.188	1.153	1.122	1.084	1.070	3/1.121
1968	1.098	1.150	1.111	1.188	1.162	1.154	1.226	1.242	1.235	1.202	1.213	1.138	3/1.165
1969	1.132	1.128	1.132	1.185	1.231	1.154	1.196	1.212	1.295	1.276			
1970													
	Ratio												
1964	13.1	12.3	12.5	12.5	13.5	13.3	13.5	15.6	18.5	19.4	21.0	19.3	15.4
1965	20.0	21.1	23.0	21.7	21.9	20.6	17.7	18.6	20.1	18.6	18.6	17.1	19.9
1966	15.9	15.0	14.5	14.8	14.9	14.2	13.8	16.8	17.1	17.7	18.0	16.7	15.8
1967	16.1	16.0	15.6	16.1	17.1	16.4	16.5	15.8	17.6	19.0	18.4	18.4	16.9
1968	16.5	15.3	16.6	16.4	17.5	17.8	16.5	18.5	20.2	21.6	22.1	22.8	18.5
1969	22.5	22.8	23.6	23.1	22.9	22.4	20.0	19.3	18.3	19.6			
1970													

1/ Hog and corn prices at Omaha are being used to replace Chicago prices in computing the hog-corn ratio since the Chicago price series for hogs was discontinued in May 1970. 2/ Average prices of packer and shipper purchases of barrows and gilts. 3/ Weighted average.

Table 31.--Feed grain stocks: Quarterly distribution, 1968-70

Year	Farm	Commodity Credit Corporation 1/	Terminal market, mill, elevator and warehouse	Total	Farm	Commodity Credit Corporation 1/	Terminal market, mill, elevator and warehouse	Total
	1,000 bushels							
	CORN							
	January 1				April 1			
1968	3,391,263	97,846	768,215	4,257,324	2,394,728	97,870	712,076	3,204,674
1969	3,276,322	149,156	807,894	4,233,372	2,223,680	148,992	668,236	3,040,908
1970 2/	3,320,292	144,243	848,894	4,313,429	2,221,646	135,285	632,542	2,989,473
	July 1				October 1 3/			
1968	1,646,440	97,785	432,793	2,177,018	781,762	103,312	277,181	1,162,255
1969 2/	1,486,739	145,982	435,674	2,068,395	728,220	143,319	241,855	1,113,394
1970 2/	1,402,941	119,146	400,619	1,922,706				
	GRAIN SORGHUM							
	January 1				April 1			
1968	213,026	4,572	514,769	732,367	142,130	4,586	370,321	517,037
1969	221,739	4,600	518,764	745,103	129,823	4,598	408,768	543,189
1970 2/	188,912	4,581	498,925	692,418	120,261	4,577	381,318	506,156
	July 1				October 1 3/			
1968	90,719	4,587	272,821	368,127	58,145	4,586	226,362	289,093
1969 2/	83,816	4,583	297,908	386,307	53,206	4,583	230,457	288,246
1970 2/	69,191	5,233	273,678	348,102				
	OATS							
	January 1				April 1			
1968	548,803	6,668	97,710	653,181	361,671	6,665	76,869	445,205
1969	660,692	6,656	116,571	783,919	442,820	6,650	102,727	552,197
1970 2/	723,295	7,965	153,021	884,281	528,779	7,914	136,730	673,423
	July 1 3/				October 1			
1968	206,173	6,668	59,843	272,684	782,012	6,658	147,997	936,667
1969 2/	275,218	6,664	93,285	375,167	829,616	7,884	185,844	1,023,344
1970 2/	344,547	8,049	136,546	489,142				
	BARLEY							
	January 1				April 1			
1968	184,640	3,902	114,637	303,179	129,092	3,946	85,320	218,358
1969	247,666	3,916	119,982	371,564	183,783	3,917	95,117	282,817
1970 2/	257,970	4,915	157,236	420,121	192,825	4,906	128,693	326,424
	July 1 3/				October 1			
1968	71,524	3,944	62,200	137,668	303,093	3,931	147,208	454,232
1969 2/	114,875	3,927	80,682	199,484	306,638	4,991	185,803	497,432
1970 2/	132,114	4,909	95,041	232,064				

1/ CCC owned at binsites; excludes grain owned by CCC in other positions. 2/ Preliminary. 3/ Old crop grain only.

Table 32.--Feed grain stocks owned by Commodity Credit Corporation, 1968-70

[1st of month]

Year	January	February	March	April	May	June	July	August	September	October	November	December
	1,000 bushels											
	CORN											
1968	137,977	137,765	137,231	136,861	136,392	136,151	136,330	136,265	156,010	182,306	244,205	257,579
1969	260,519	258,684	257,774	257,431	259,206	263,768	270,158	266,793	288,895	295,100	300,309	297,465
1970	296,360	294,563	292,415	285,158	279,028	273,109	263,620	262,674				
	GRAIN SORGHUM											
1968	192,656	192,543	192,023	191,726	191,610	191,817	191,542	192,128	192,445	192,469	192,859	192,474
1969	192,447	192,413	192,420	192,223	192,962	193,334	192,939	197,522	198,810	198,678	196,001	192,024
1970	188,097	181,560	176,281	169,848	164,700	170,132	169,516	176,488				
	OATS											
1968	45,106	45,090	45,047	44,977	45,006	45,005	45,206	45,307	45,722	45,783	45,895	45,915
1969	45,916	45,907	45,910	45,922	46,043	47,136	61,088	67,884	74,554	75,867	76,650	76,512
1970	76,453	76,467	76,510	76,990	76,937	80,959	105,337	129,716				
	BARLEY											
1968	5,655	5,682	5,679	5,673	5,667	5,682	5,868	5,952	6,363	6,442	6,491	6,504
1969	6,506	6,503	6,486	6,600	7,064	8,322	26,736	34,785	45,752	47,780	48,531	48,621
1970	48,707	48,667	48,692	48,724	48,994	47,268	53,526	,1,100				

Compiled from operating reports of Agricultural Stabilization and Conservation Service, USDA.

Table 33.--Production, stocks, and foreign trade in processed feeds, foreign trade in feed grains, and corn and barley processing, specified months 1/

Commodity	Production					Stocks 2/				
	1969	1970				1969	1970			
	June	Mar.	Apr.	May	June	July 1	Apr. 1	May 1	June 1	July 1
	1,000 tons					1,000 tons				
Processed feeds										
Soybean meal	1,202.9	1,489.4	1,481.1	1,597.8	1,511.0	168.1	149.8	156.9	233.5	213.7
Cottonseed meal	106.8	197.7	144.2	103.1	73.7	179.4	146.0	148.4	161.0	141.5
Linseed meal	18.9	18.2	23.5	23.6	21.3	12.7	4.2	6.4	12.3	18.2
Peanut meal	11.3	15.7	14.8	11.4	8.6	5.0	4.7	5.8	6.7	6.8
Meat meal and tankage	162.4	154.3	167.8	159.1	161.3	---	---	---	---	---
Fish meal and solubles	42.1	6.4	8.9	32.0	55.4	---	---	---	---	---
Brewers' dried grains	21.9	30.2	32.8	32.5	33.8	4.5	5.5	5.0	5.0	5.9
Distillers' dried grains	34.9	36.3	41.0	36.2	33.9	3.2	4.1	2.9	2.7	1.5
Wheat millfeeds	364.6	372.0	352.3	346.6	353.9	---	---	---	---	---
Rice millfeeds	42.0	35.4	58.2	41.8	39.9	---	---	---	---	---
Alfalfa meal, dehydrated	349.0	20.4	37.9	185.5	299.2	441.7	197.1	123.4	197.3	314.8
sun-cured	28.7	30.1	27.3	25.2	26.6	4.7	13.8	10.6	7.5	5.6
Total	377.7	50.5	65.2	210.7	325.8	446.4	210.9	134.0	204.8	320.4
Inedible tallow	46.0	43.8	47.3	47.5	50.2	---	---	---	---	---

Commodity	Foreign trade									
	Exports					Imports				
	1969	1970				1969	1970			
	June	Mar.	Apr.	May	June	June	Mar.	Apr.	May	June
	1,000 tons					1,000 tons				
Soybean meal	358.9	310.5	385.9	304.9	324.6	---	---	---	---	---
Cottonseed meal	6.3	1.2	1.2	.5	3/	1.8	0	0	0	0
Linseed meal	16.9	0	0	7.1	0	.2	.1	.1	.2	.1
Other oilseed meals	1.5	4.9	2.7	8.0	3.5	.1	3/	0	0	.1
Fish meal	---	---	---	---	---	53.6	19.5	54.9	34.7	33.5
Molasses	11.2	2.6	11.6	7.5	1.6	216.0	263.2	274.2	168.5	162.4
Corn byproducts	63.6	45.5	79.1	57.5	59.5	---	---	---	---	---
Wheat millfeeds	.2	0	1.4	2.4	.1	3.0	10.4	14.4	13.8	12.3
Alfalfa meal, dehydrated	18.0	21.0	17.3	32.1	22.7	---	---	---	---	---
sun-cured	10.3	22.4	21.0	16.3	18.8	---	---	---	---	---
Total	28.3	43.4	38.3	48.4	41.5	---	---	---	---	---
Mixed poultry feed	9.8	10.4	10.1	9.9	12.1	---	---	---	---	---
Mixed dairy feed	5.4	14.2	7.0	2.7	14.0	---	---	---	---	---
	1,000 bushels					1,000 bushels				
Feed grains (including products)										
Corn	44,757	46,118	40,835	51,020	40,758	55	61	66	41	127
Grain sorghum	6,183	7,078	5,868	4,688	4,091	1	6	2	3	4/
Oats	290	388	675	323	351	175	182	182	103	106
Barley	1,290	122	139	6,537	7,815	790	393	362	2,591	1,415
Total (1,000 s. tons)	1,462	1,499	1,322	1,722	1,449	23	14	14	65	39

Commodity	Grain processing or use						
	1969		1970				
	May	June	February	March	April	May	June
	1,000 bushels						
Corn							
Distilled spirits & alcohol	2,727	2,086	3,023	3,155	3,113	2,584	*
Grain sorghum							
Distilled spirits & alcohol	237	513	210	240	258	223	*
Barley							
Malt liquors	9,225	8,016	7,648	9,654	10,049	10,156	*
Distilled spirits & alcohol	550	670	599	615	555	479	*

1/ Data compiled from reports of the Bureau of the Census, Consumer and Marketing Service, Fish and Wildlife Service of the Department of the Interior. 2/ At processors' plants. 3/ Less than 50 tons. 4/ Less than 500 bushels. *Not yet available.

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